

Syracuse University

**SURFACE**

---

Architecture Senior Theses

School of Architecture Dissertations and  
Theses

---

Spring 2019

## Death of a PostHuman

David Bullard  
*Syracuse University*

Carolina Hasbun Elias  
*Syracuse University*

Follow this and additional works at: [https://surface.syr.edu/architecture\\_theses](https://surface.syr.edu/architecture_theses)



Part of the [Architecture Commons](#)

---

### Recommended Citation

Bullard, David and Elias, Carolina Hasbun, "Death of a PostHuman" (2019). *Architecture Senior Theses*. 446.

[https://surface.syr.edu/architecture\\_theses/446](https://surface.syr.edu/architecture_theses/446)

This Thesis, Senior is brought to you for free and open access by the School of Architecture Dissertations and Theses at SURFACE. It has been accepted for inclusion in Architecture Senior Theses by an authorized administrator of SURFACE. For more information, please contact [surface@syr.edu](mailto:surface@syr.edu).

~~DEATH OF A POSTHUMAN~~

DEATH OF A POSTHUMAN

David Bullard & Carolina Hasbun Elias

Thesis Advisors:

Prof. Britt Eversole

Prof. Julie Larsen

Prof. Sinead Mac Namara

Syracuse University School of Architecture

Spring 2019

TABLE OF CONTENTS

CONTENTION	4
WASTE CATALOGUE	10
POSTHUMAN THEORY	16
HUMAN DEATH	26
NON-HUMAN DEATH	32
SITE	38
NYC: HUMAN DEATH	48
NYC: NON-HUMAN DEATH	58
FUNERAL HOME	64
THOUGHT DIAGRAMS	68
MATTER	74
PROPOSITION	84
CONCLUSION	132
BIBLIOGRAPHY	134

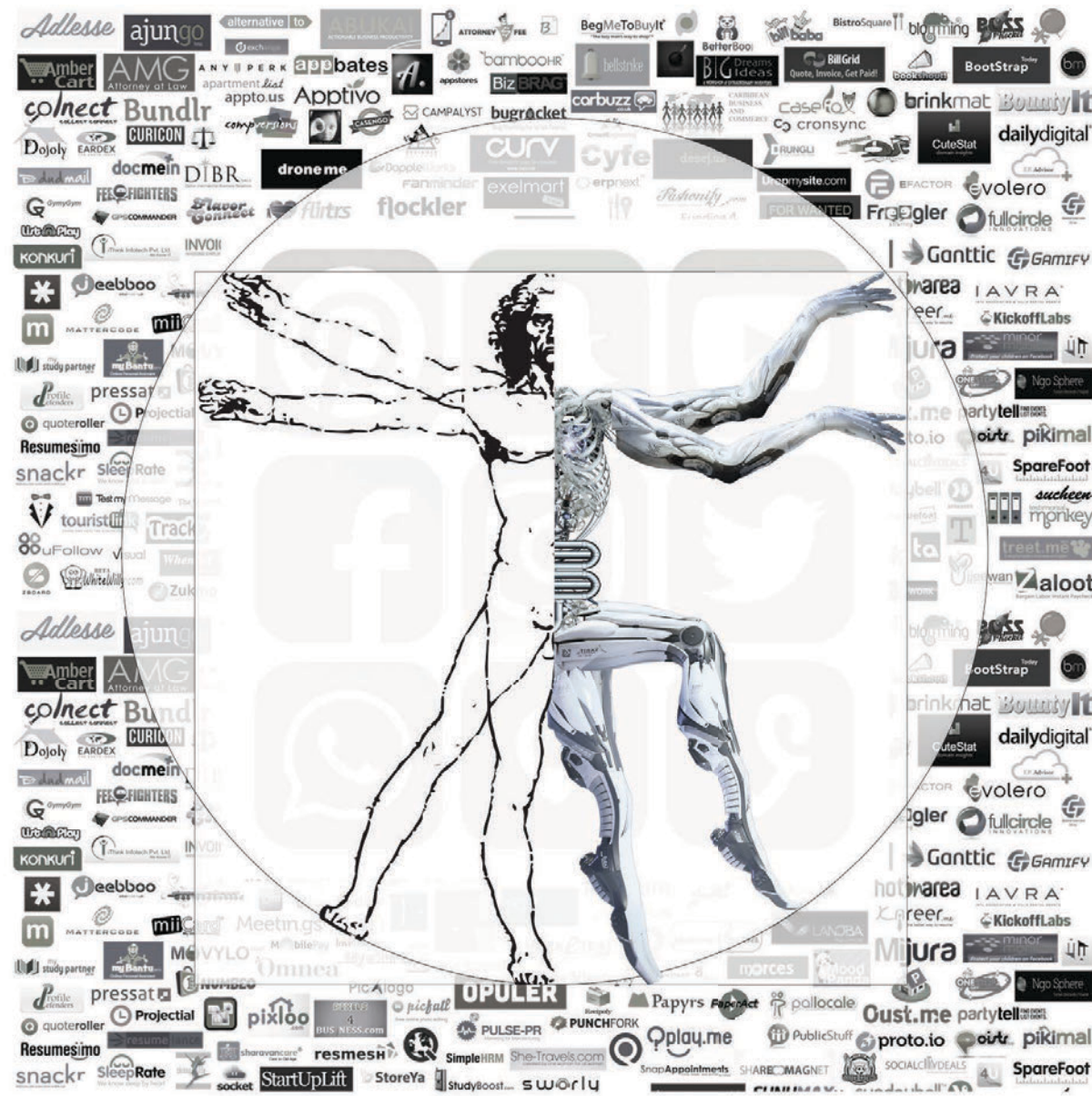
## ~~CONTENTION~~

*“If we reflect on these environmental and sociotechnical changes, and the ways in which these changes affect humans and the world they live in, we can begin to adjust our fundamental understanding of the human and non-human ways of being in the world (living and dying) and in turn develop corresponding design methods, frameworks, and practices that can address the challenges these changes pose to us.”*

*-Laura Forlano*



## CONTENTION



Some of the first marks humans left on the planet were the architectures of death and remembrance. From the pyramids of Ancient Egypt to the burial landscapes of the 20th century, today's architecture of death manifests itself mainly as cemeteries and crematoriums. However, we contend the culture of death in the 21st century has evolved to demand an architecture that acknowledges changes in its culture and its impact on the natural and technological environment.

Humans are no longer just human. Our recent evolution has presented two realities, to which the discipline of architecture needs to respond. First, the split presence of the digital and physical identity. Second, the advancements in science and biotechnology that facilitate augmented humanity. From the well established medical devices of today, such as insulin pumps and artificial organs, to more speculative designs such as smart prosthetics and identity microchips. We define this merging of human and technology, of physical and mental, as posthuman. So, when a person dies, the technological parts of them will remain alive through the digital extension of the self, thus making it more plausible to memorialize and perhaps mourn the human, in the absence of the body. Architecture can narrate and recycle our posthuman bodies, creating new types of burial and memorial rituals that can also respond to increasing spatial and environmental challenges presented by traditional burial and cremation.



# TIMELINE

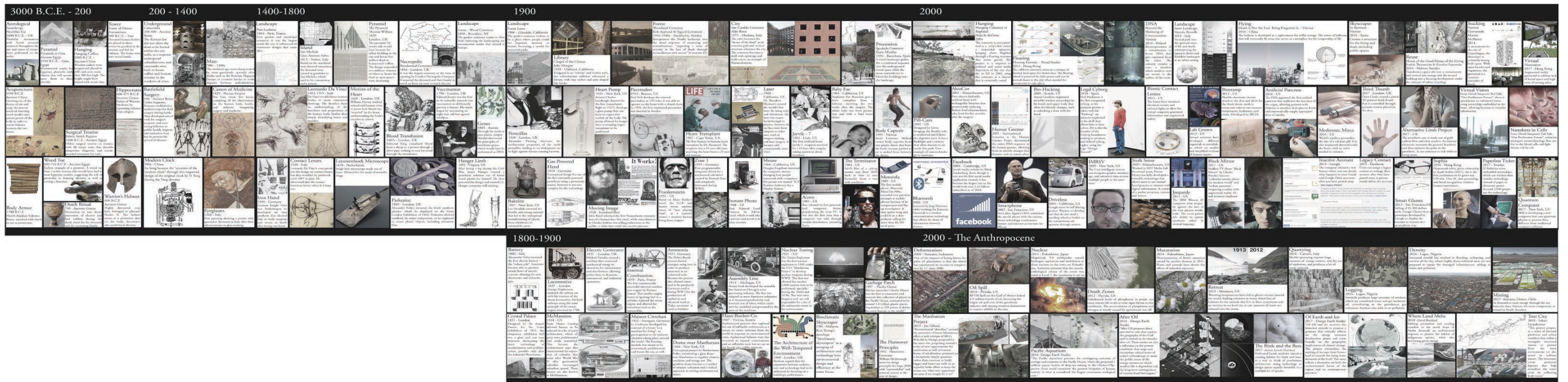
Row 1: Architecture of the Cemetery

Row 2: Biomedical Advancements

Row 3: Technological Advancements

Row 4: Anthropocene Manifestation

Row 5: Architectural Response



The juxtaposition of different events in the world allows us to compare the social attitudes around death, technology, and the environment at different moments in time. The posthuman understands itself to be technological, therefore a glimpse of the history of biomedical advancements and the emergence of digital technologies starts to suggest how the physical merging has occurred and what contributed to this reality.

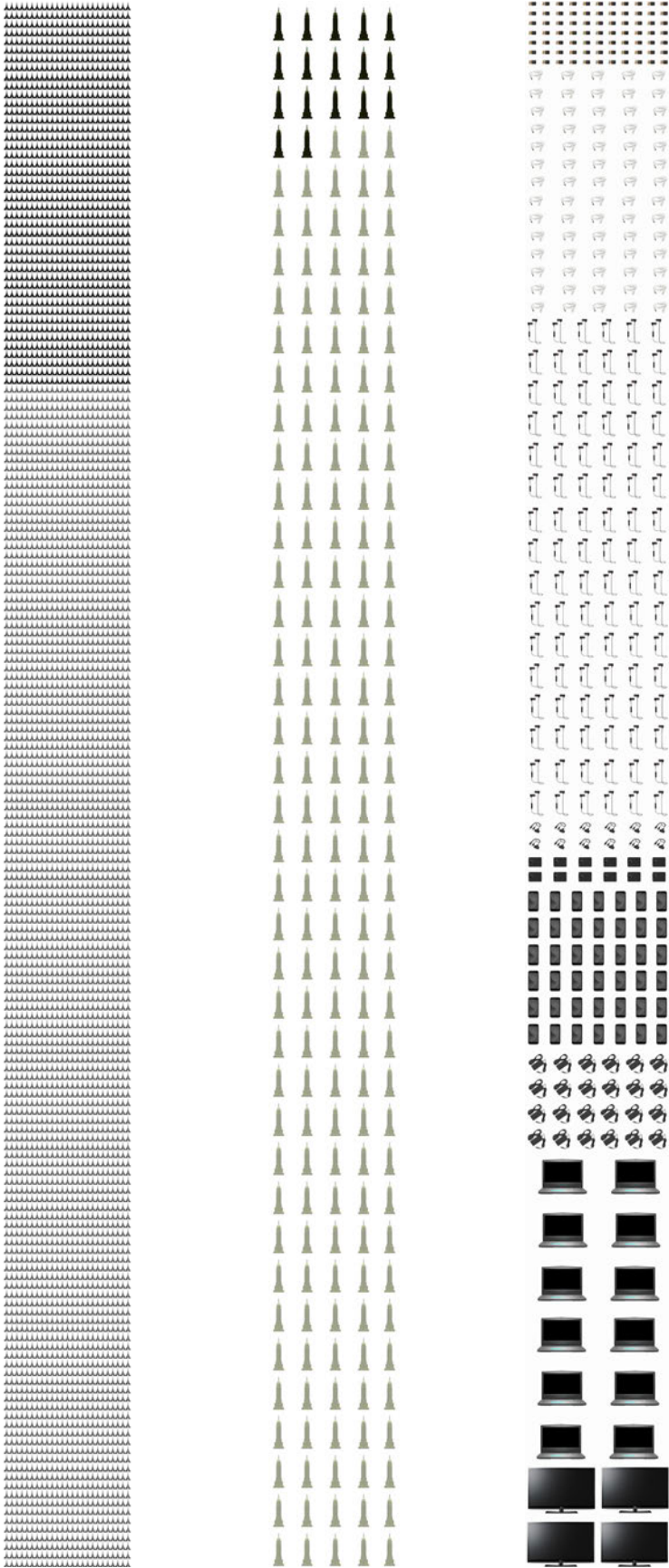
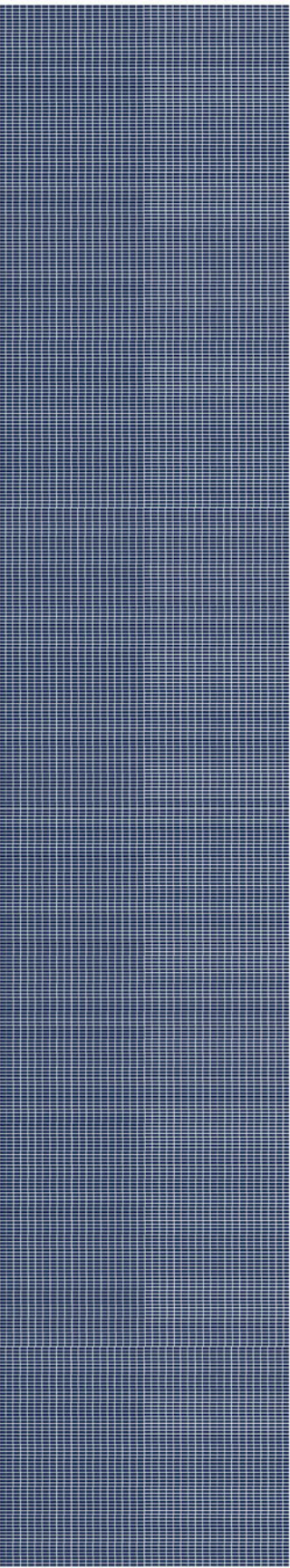
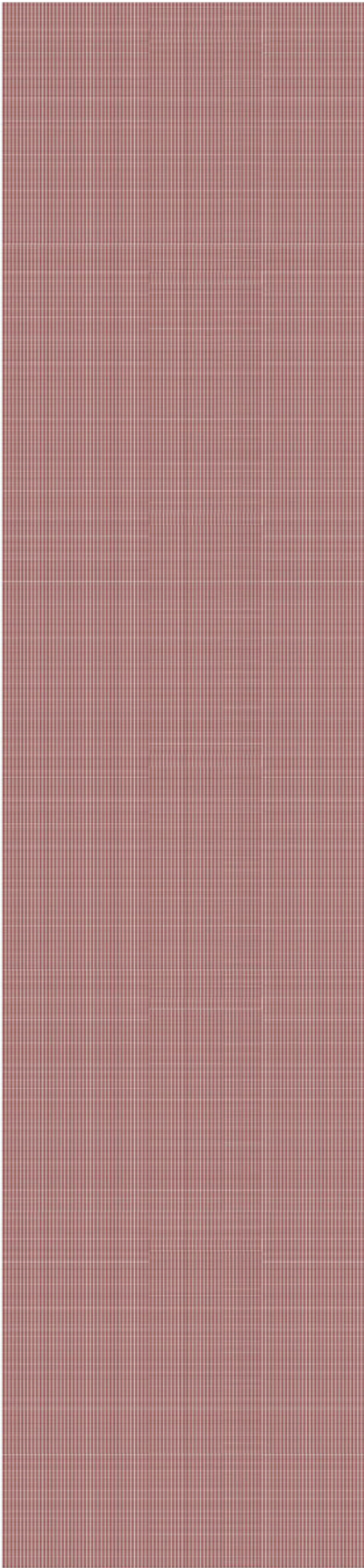
By also understanding how the field of architecture has designed or speculated on death, it becomes clear that it has and continues to be approached from a humanist perspective. On the other hand, posthumanist approaches have been taken as architects grapple with what it means to design in the Anthropocene, either as a critique or a real preoccupation with the Earth and non-human species.

## ~~WASTE CATALOGUE~~

*“As the world becomes increasingly populated, so the removal of human remains becomes a fundamental environmental issue with regards land use, material and resource consumption, waste and emissions”*

*-Andrea Fontana*







Traditional methods of burial and cremation are very wasteful, specially in the United States. Every year, the country uses in burial:

- 4 Pentagons worth of reinforced concrete*
- 8 Olympic pools worth of formaldehyde*
- 12 Eiffel Towers worth of metal*
- 1,900 Single-family homes worth of wood*

Cremation is cheaper and uses less material, but still releases yearly:

- 70,000 Car Emissions worth of CO2*

The amount of e-waste produced from technological devices is also wasteful and plentiful. Every year the United States exports:

- 20,000 shipping containers of E-waste to China*
- and can build:*
- 1075 Eiffel Towers*
- 22 Empire State Buildings*

The average American lives 78 years, producing an estimate of the following e-waste related products in his/her lifetime:

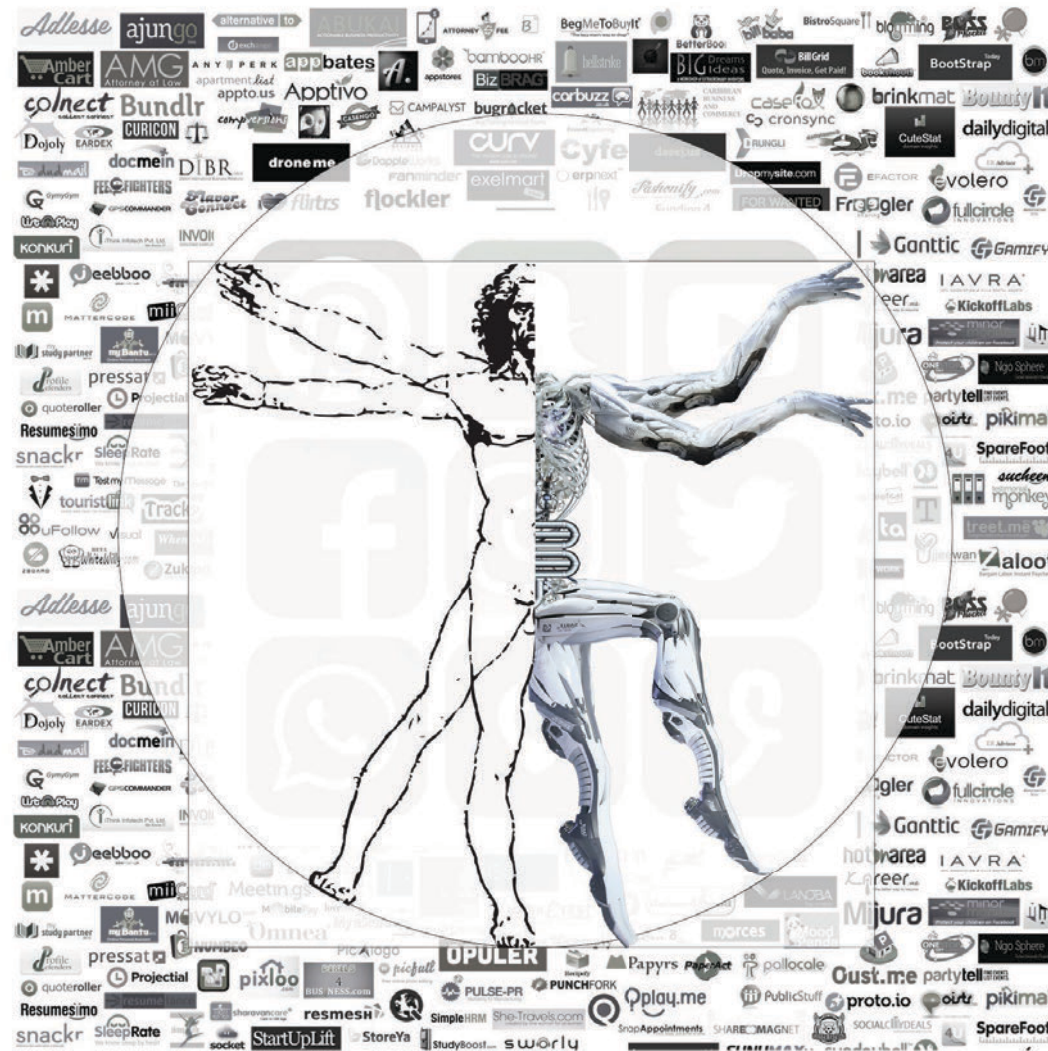
- 10 Batteries / year = 77 batteries*
- 1 Phone charger / year = 70 phone chargers*
- 2 Earphones / year = 96 earphones*
- 1 USB Cable / 5 years = 12 USB cables*
- 1 Hardrive/ 5 years = 12 hardrives*
- 1 Phone/2 years = 42 phones*
- 2 Computer chargers / 5 years = 24 computer chargers*
- 1 Computer / 5 years = 12 computers*
- 1 TV / 10 years = 4 TVs*

## ~~POSTHUMAN THEORY~~

*“In the posthuman, there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology and human goals”*

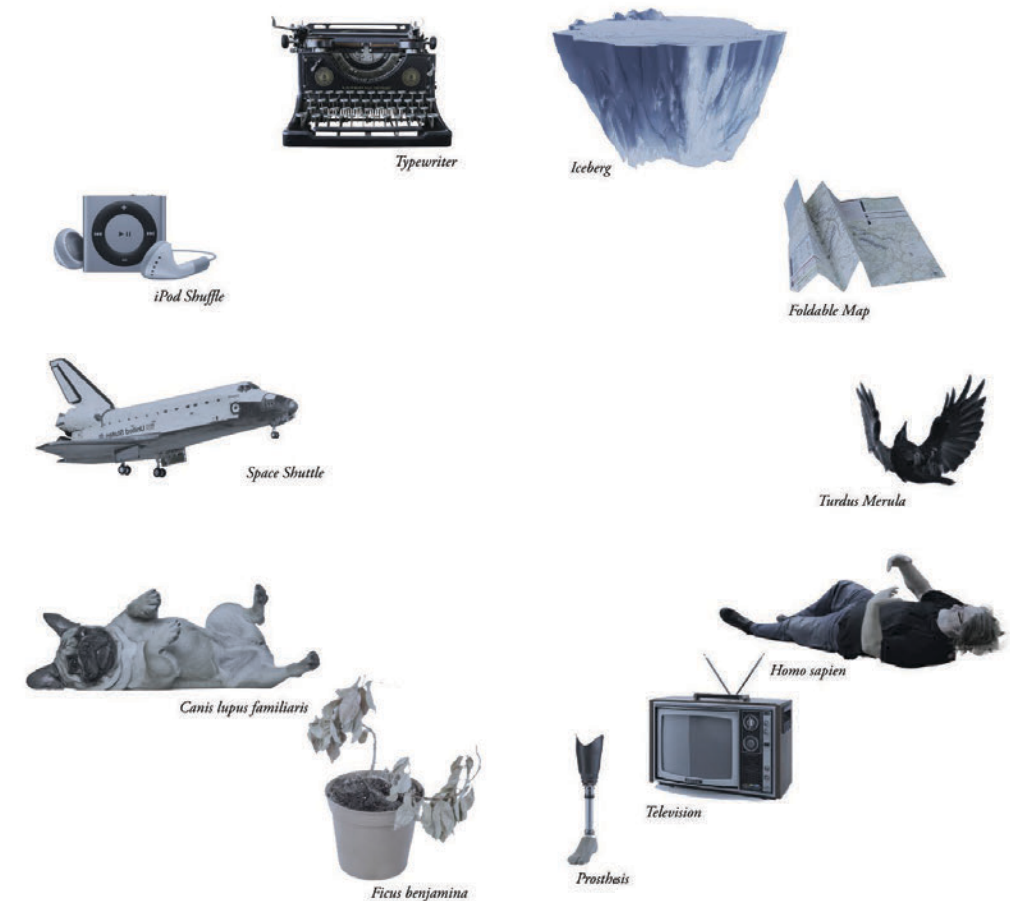
*-Katherine Hayles*

## CYBORG



We begin by understanding the main concepts that serve as the driving forces of our project, the cyborg, a human who has extensions of the self both in the digital and physical realm.

## FLAT ONTOLOGY



According to Rosi Braidotti in *Posthuman Glossary*, flat ontology is the “principle that everything that can be taken to exist should be taken to exist, that everything exists in the same sense, and that no objects should be granted special ontological status”.

## OOO



The concept of Object Oriented Ontology (OOO), which mandates that everything is an object and that all objects are to be seen as equal in value and importance, further allows us to understand the human as existing on an equal plane field with the rest of the non-human world.

## ANTHROPOCENE



The Anthropocene, the era defined as the period in time during which humans have had the largest impact on changes to the environment, reveals the negative repercussions of previous humanist approaches.



Lastly, the posthuman becomes an embodiment of these concepts by taking the human form and understanding it as a part of a larger network. Through the posthuman lens, the environment, the human, and the non-human are interconnected and exist in non-hierarchical way.

## POSTHUMAN



## ~~HUMAN DEATH~~

*“Death obviates materiality, liberating freedom from bodies that give flesh to responsibility, family, and above all, remembrance.”*

*-Russ Castronovo*

*“Life is given over to death and death continues to articulate life and exchange with life by infusing it with meaning.”*

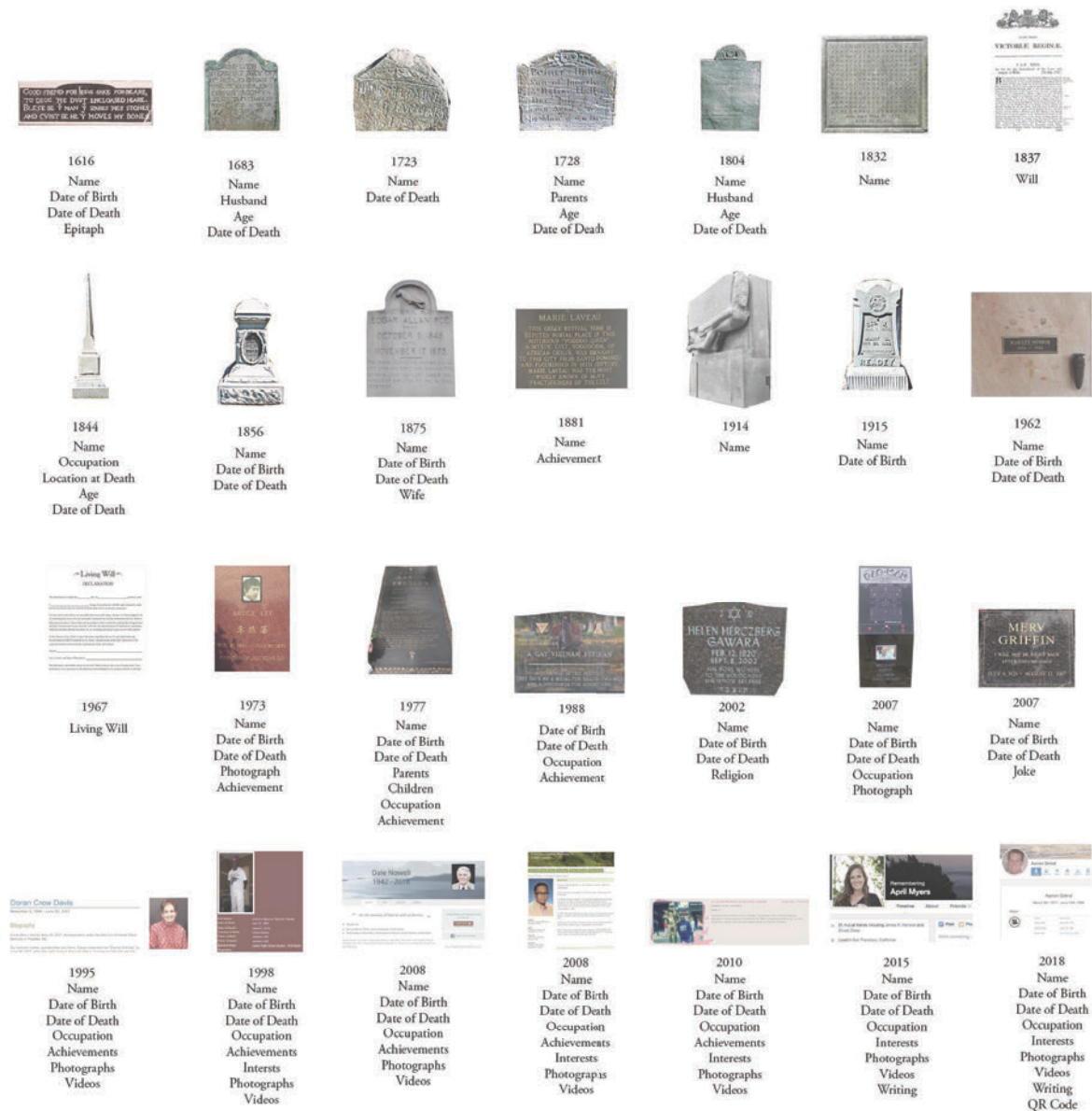
*-Andrea Fontana*

BODY DISPOSAL



A taxonomy of traditional and contemporary ways of body disposal speak to our preoccupation with what happens to our physical remains post-mortem and ways to rethink burial.

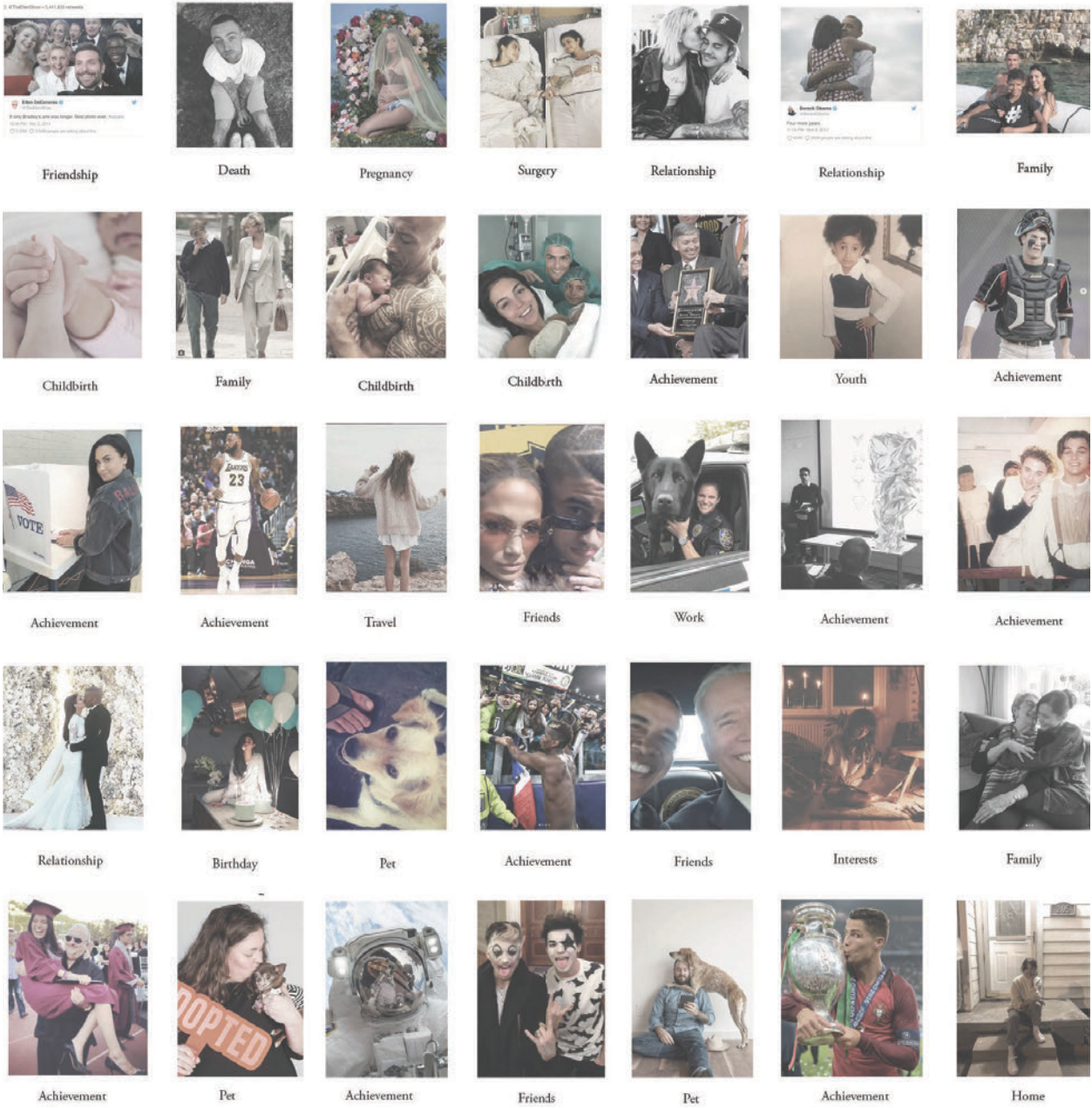
MEMORIALIZIZATION



The cataloguing of narratives around human life and death showcases how the digital persona's curated digital legacy changes what is remembered after death.



SOCIAL MEDIA



The cyborg’s digital presence is not only concerned with major milestones in its life, but with the banal events and objects that occur daily. *ABC’s* “20 most-liked celeb Instagram posts of 2017” showcases this change in narrative through what the online persona shares, and eventually memorializes.

## ~~NON-HUMAN DEATH~~

*“Not only have we begun to accept technology, we have begun to identify with it. So deeply has technology embedded itself within our modern psyche that it has become part of our definition of ourselves.” -Neil Leach*

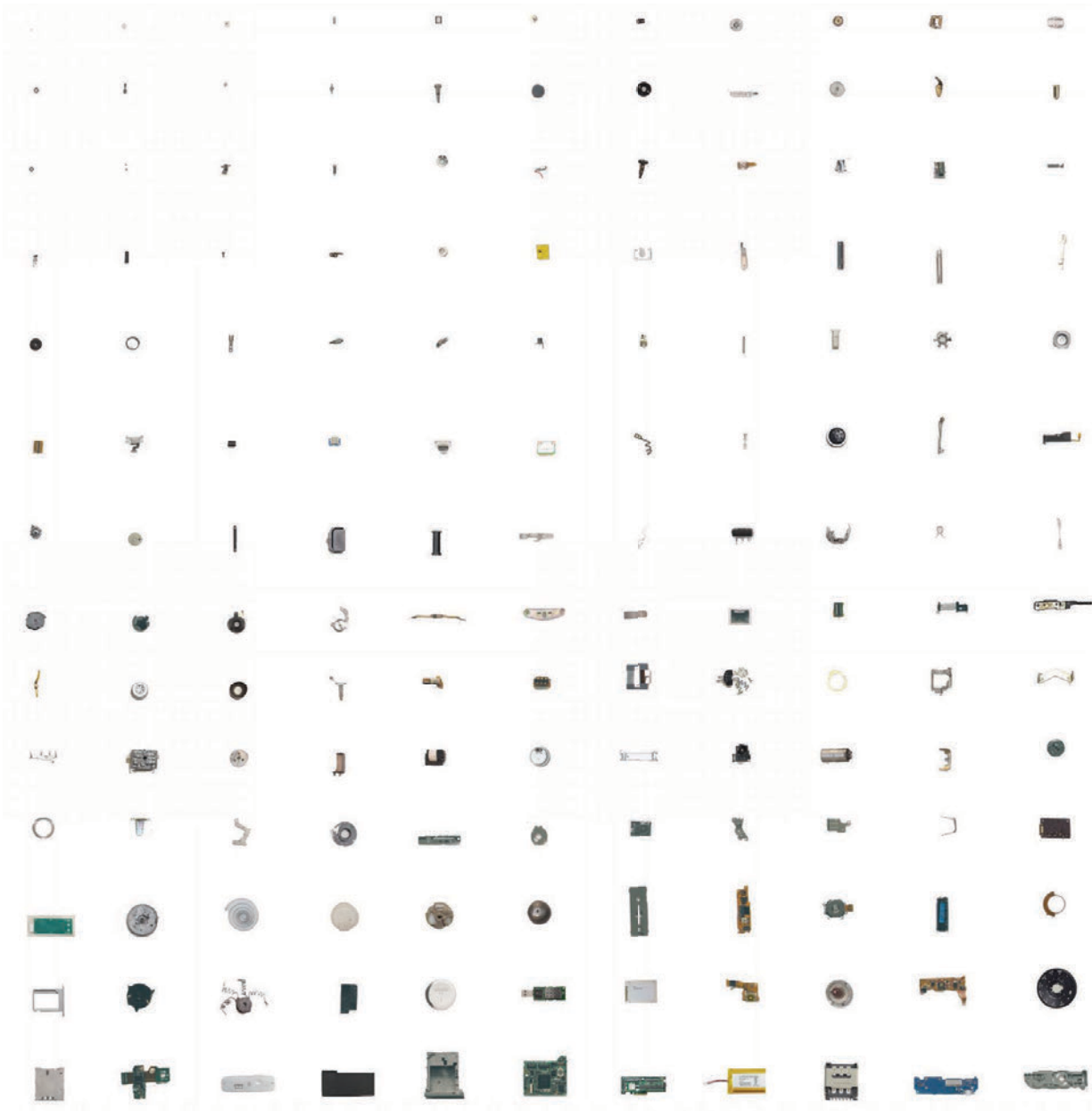
*“The great dream and promise of information is that it can be free from the material constraints that govern the mortal world.”  
-Kathrine Hayles*

As the digital persona solidifies its presence, technology constantly dies in the process. Obsolete technology and disposed objects become a contradiction between the attachment these objects and the American culture surrounding waste.

## E-WASTE



# DISASSEMBLY



The further breaking down of e-waste begins to speak about the physical rammification of the cyborg. The posthuman imprint becomes large amounts of hazardous waste that will find its way to either being recycled, shredded, or left in a landfill.

# RESOURCES



Technology plays a role in our physical environment through the use of natural resources that are used for its making. Aluminium, gold, and copper become highly valuable to recycle, while others, such as lead, become toxic to the environment and the bodies improperly handling it.

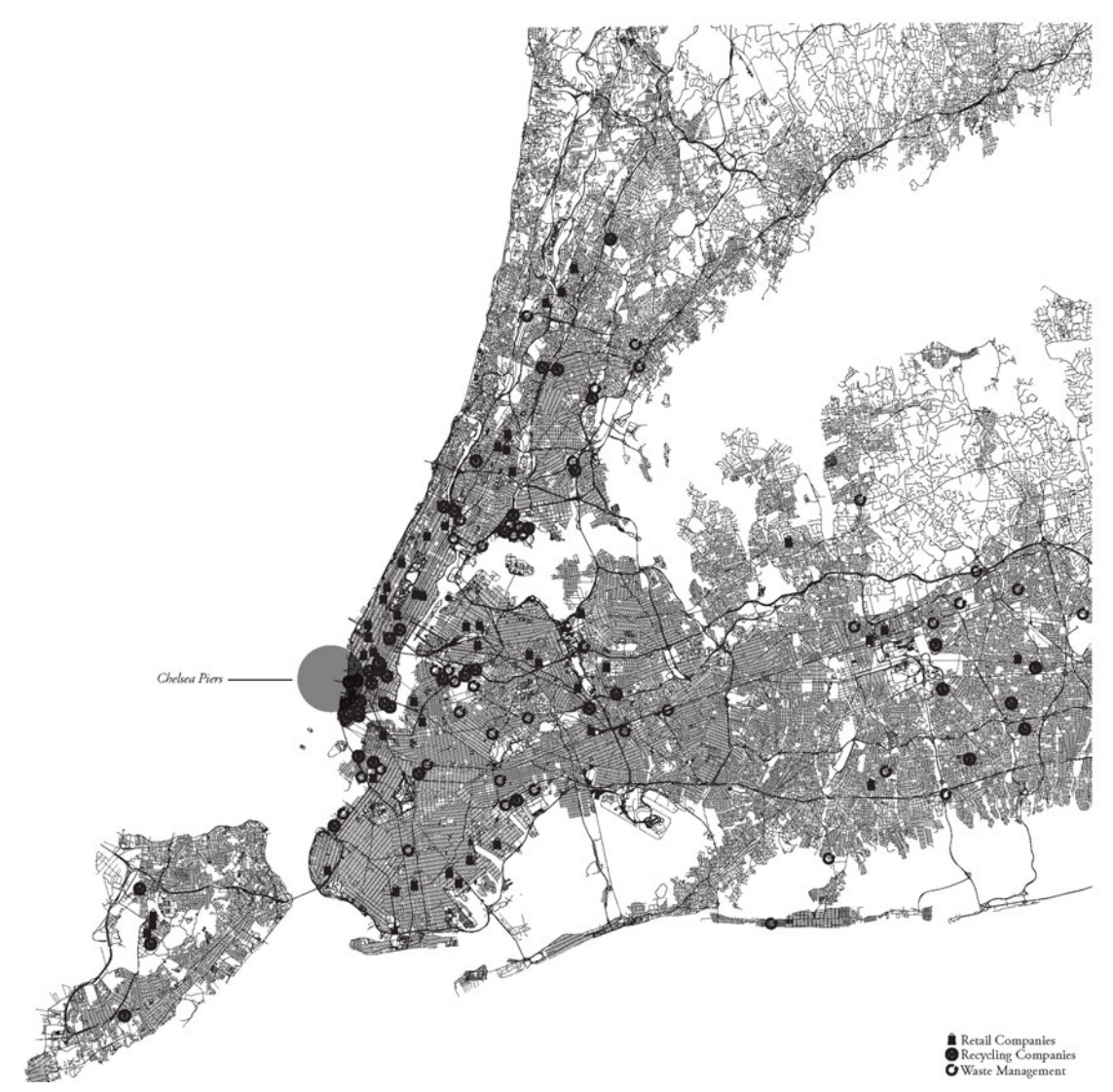
## ~~SITE~~

*“New York is unique among American cities in the way it disposes of the dead it considers unclaimed: interment on a lonely island, off-limits to the public, by a crew of inmates. Buried by the score in wide, deep pits, the Hart Island dead seem to vanish — and so does any explanation for how they came to be there.”*

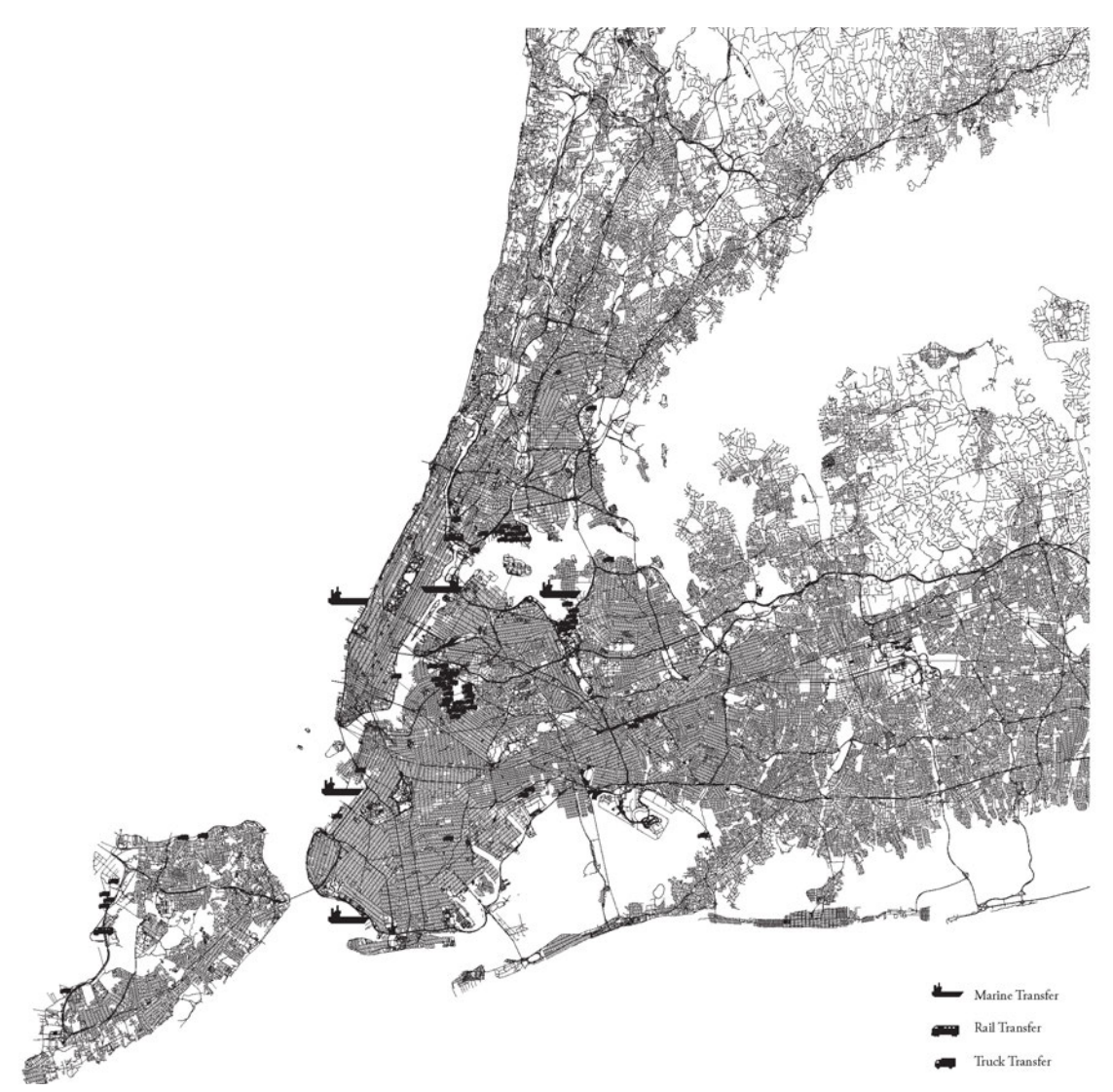
*-Nina Bernstein*



# SITE LOCATION



# TRANSFER STATIONS

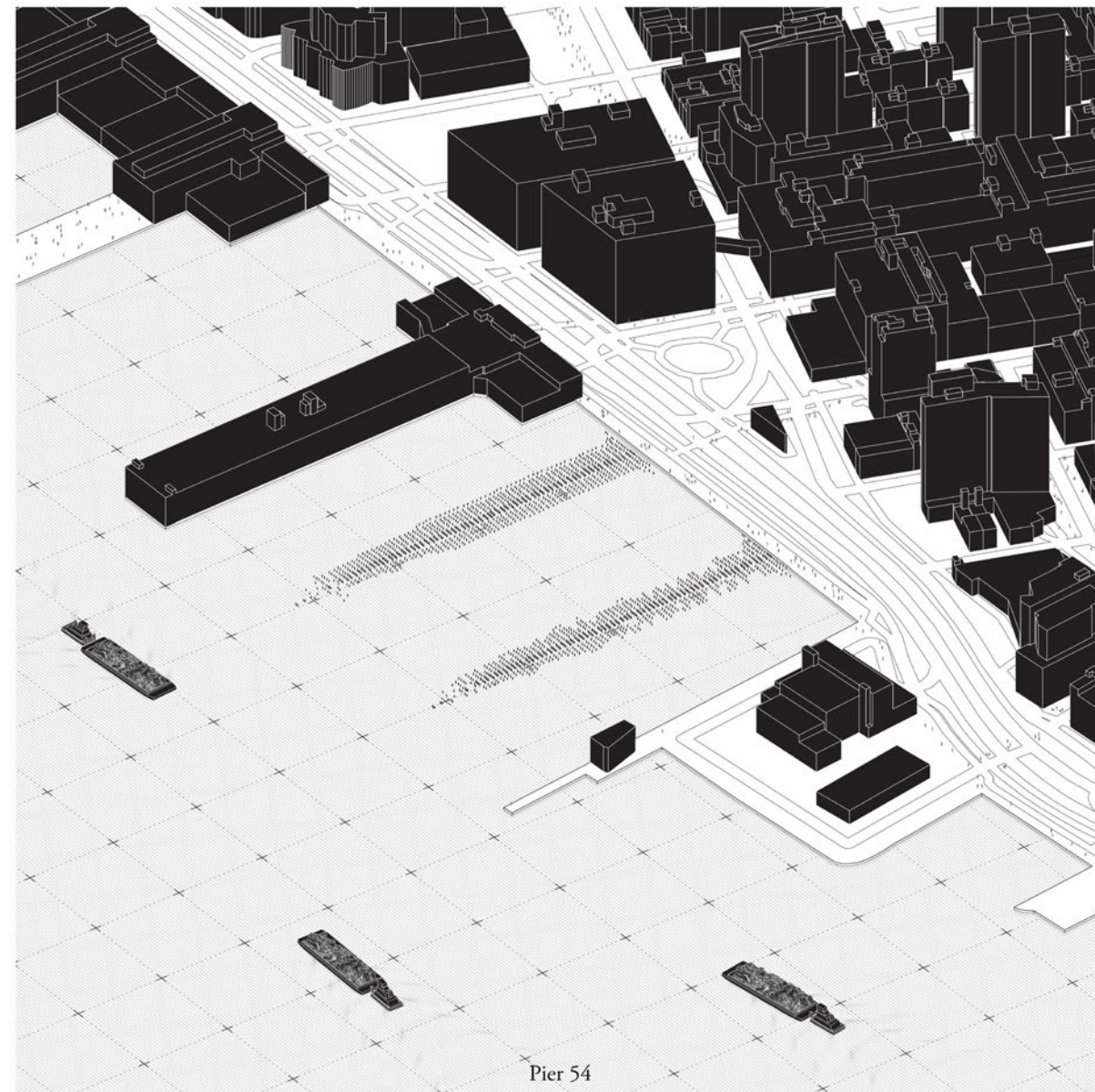


We have chosen New York City as the testing ground for our research because not only does it have the largest human density in the country (9 million and expected to grow), but it also has a culture of exportation embedded within in its human disposal procedures and its waste management system, making it a node in a larger network of the handling of waste.

Currently, the city’s waste exportation system relies on transfer stations along the river that transport waste to New Jersey.

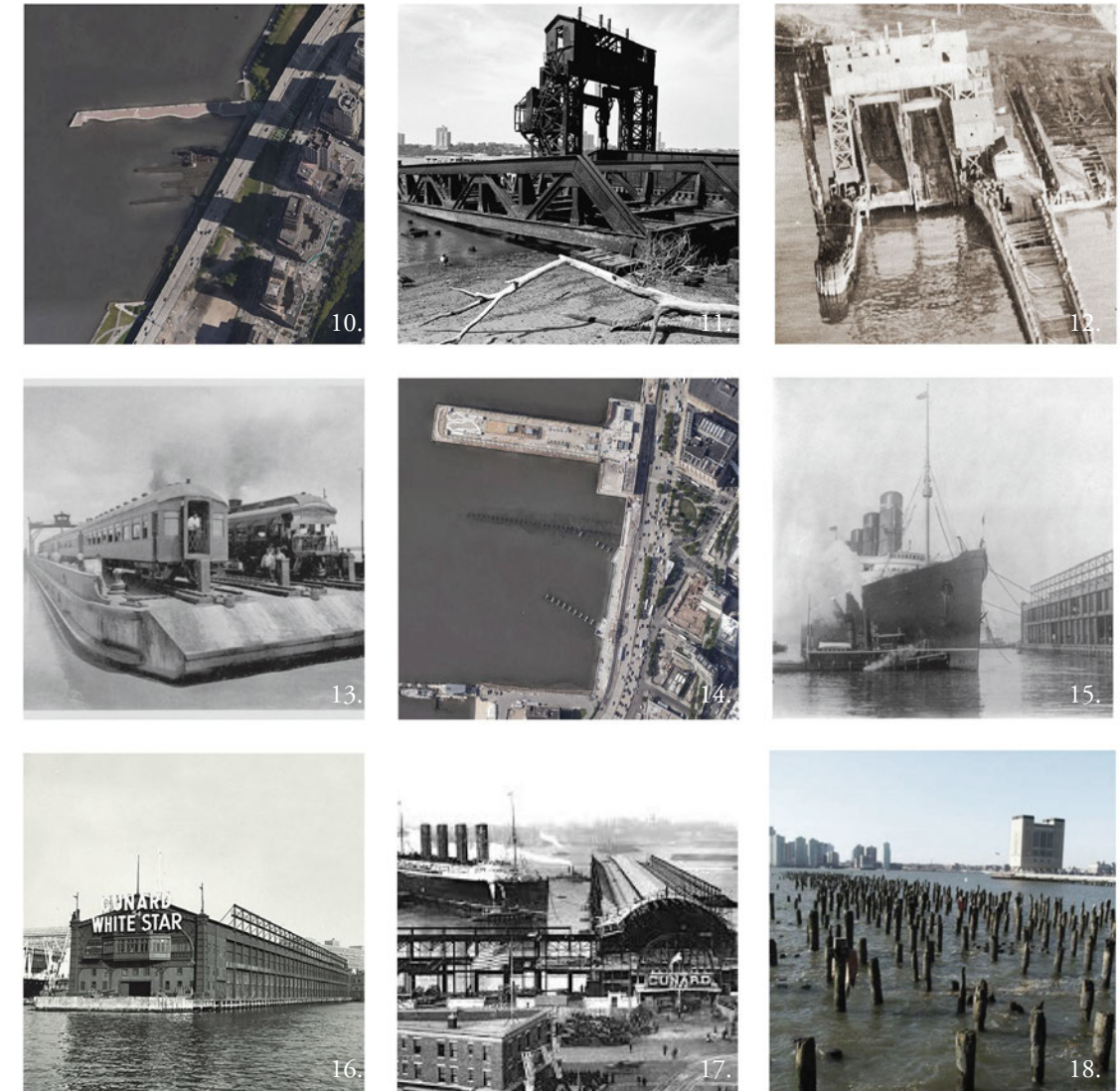


## SITE CONDITIONS



Piers 54 and 55, which once stood at the site, represented the great machine that was the ocean liner, an invention that is now obsolete as a mode of transportation. A symbol of dead technology, the piers also allow us to participate in existing transportation infrastructures along the Hudson River.

## HISTORY

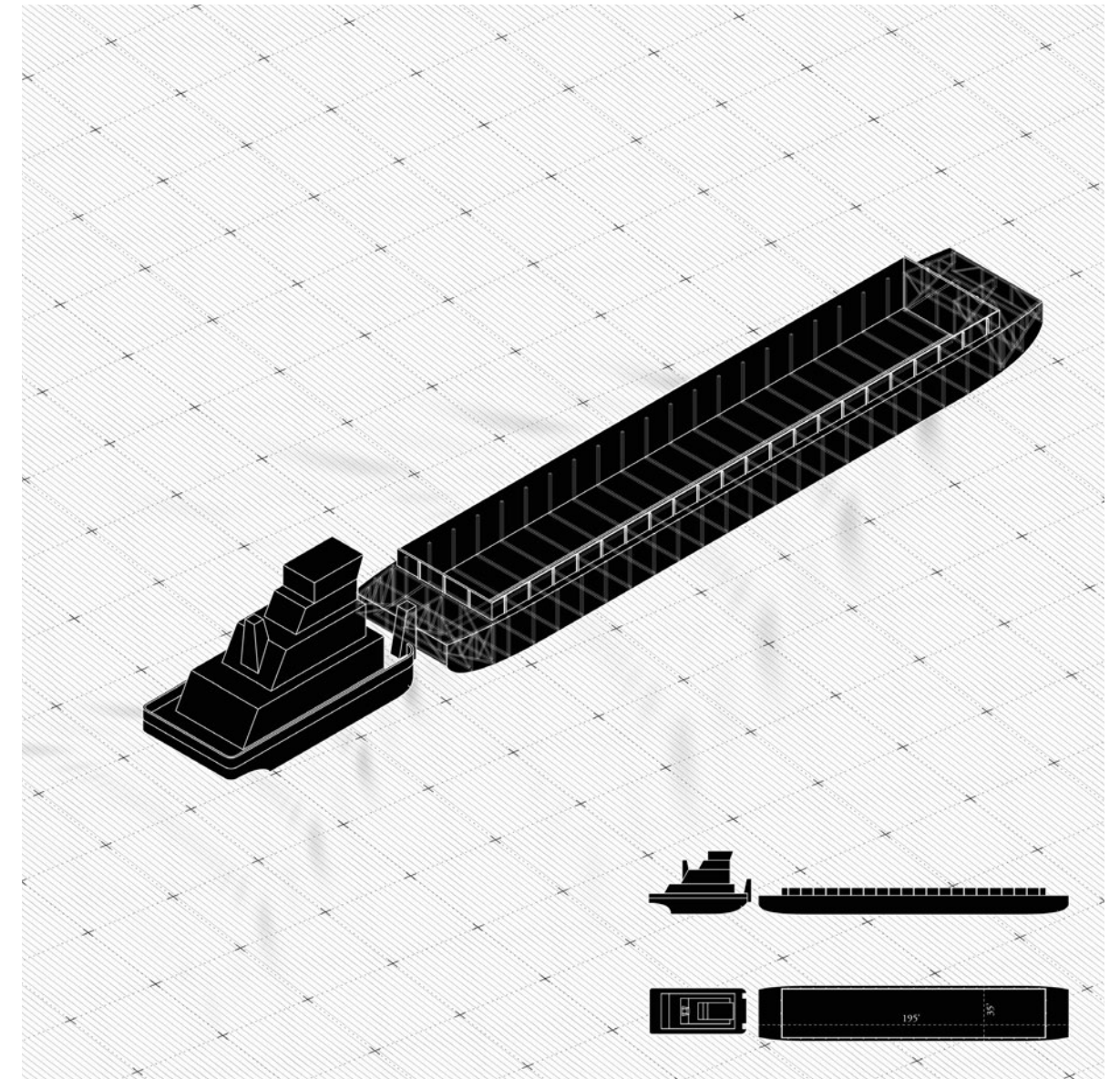


10. Google Earth 2018, New York City, NY, June 15, 2018.
11. Cornelis Verwaal, "New York Central Railroad 69th St. Transfer Bridge, a historic monument," 2007.
12. T. Flagg, "Three types of transfer bridges in one location: New York Central Railroad West 60th Street Terminal, Manhattan, NY," 1978, in *Development of the Carfloat Transfer Bridge in New York Harbor*.
13. "Southern Pacific Railroad in New Orleans," in *Train Ferry Facts for Kids*, Kiddle Encyclopedia.
14. Google Earth 2018, New York City, NY, June 15, 2018.
15. Library of Congress, "Lusitania Coming to New Pier," 1908.
16. Monkey Fist, "Pier 54," April 15 2016. <https://gcaptain.com/titanic-anniversary/pier-54/>
17. "Where survivors of the Titanic docked in 1912," *Ephemeral New York*, Wordpress, January 23, 2013.
18. *Forgotten New York*, FORGOTTENTOUR 50: The Hudson Riverfront, Accessed December 15, 2018.



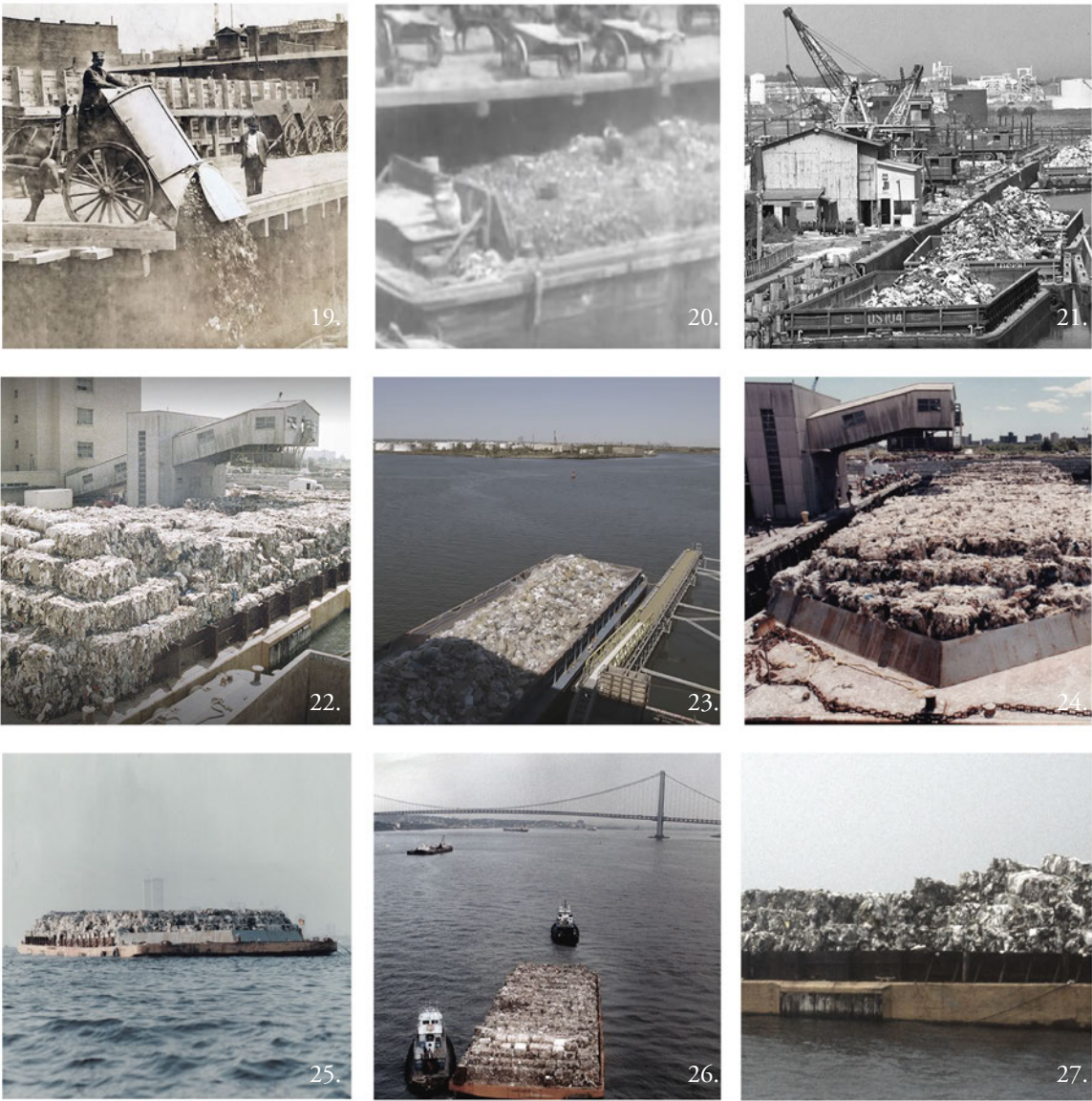
## BARGES

Barges are an important mode of transportation for NYC, where roads and highways are very congested. The Hudson River has allowed for barges to transport products in and out of the city.





# HISTORY



19. The New York Times, Screenshot from “Where Does New York City’s Trash Go?” September 25, 2014.  
20. Library Of Congress, Screenshot from “New York City Dumping Wharf,” May 20, 1903  
21. The New York Times, Screenshot from “New York City’s Trash,” 2014.  
22. The New York Times, Screenshot from “Voyage of the Mobro 4000,” May 21, 2013.  
23. The New York Times, Screenshot from “New York City’s Trash,” 2014.  
24. Don Jacobsen, “Overall View of the Islip Garbage Barge,” August 24, 1987.  
25. Ken Sawchuck, “The Garbage Barge Floats in New York Harbor,” July 22, 1987.  
26. Thomas Koeniges, “The Break of Dawn Tugboat and its Barge,” May 17, 1987.  
27. The New York Times, Screenshot from “Mobro,” 2013.

# MOBRO 4000



The famous Mobro 4000 was a barge that left Long Island in search for state that would be willing to accept the waste it carried. The trip was highly documented and revealed NYC’s larger infrastructural issue of handling waste. It travelled for several weeks and was declined by seven states and three countries, eventually making its way back to New York and its waste got incinerated in Brooklyn.

## ~~NYC: HUMAN DEATH~~

*“Death has been torn out of the city, and a significant part of the  
city has died as a result.”  
- Edwin Heathcote*



## BODY DISPOSAL

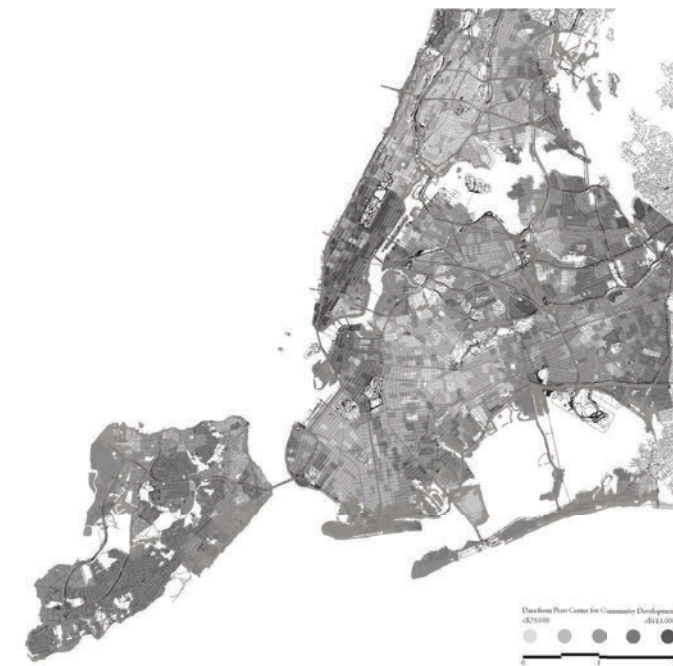


By zooming out to a metropolitan scale, the mapping of New York City's cemeteries reveals that there is no space in the city center for the human dead. Most of the few open spaces in the city become the landscaped green spaces where the living and dead must coexist.

## OPEN SPACE

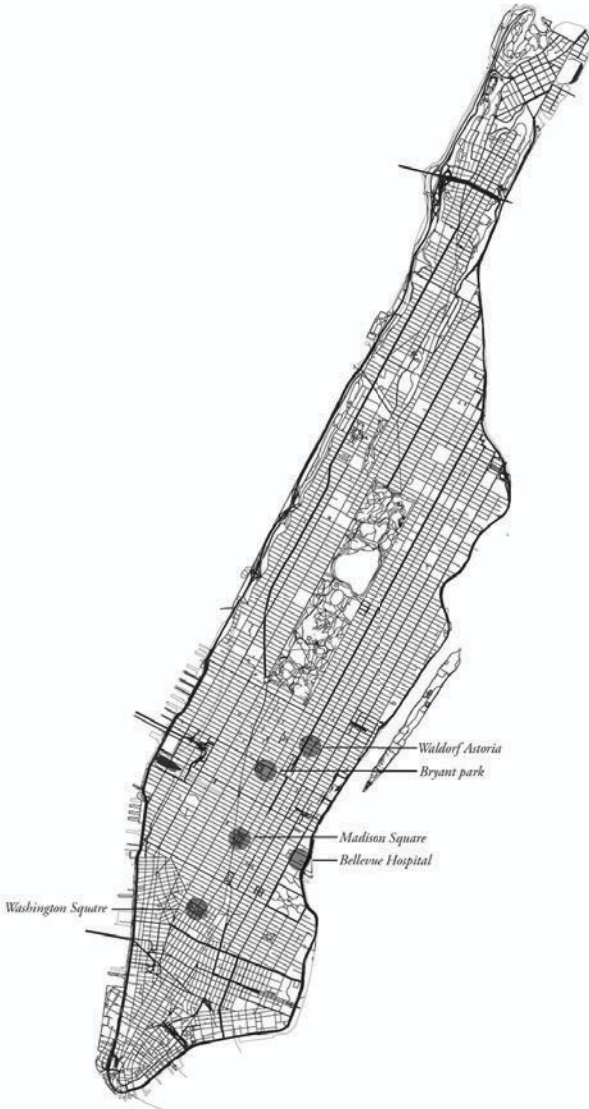


## HOUSEHOLD INCOME



FORMER GRAVE SITES

Because of its density, the city has had to relocate graveyards to accomodate for more infrastructure, as has been the case for the Waldorf Astoria, Washington Square, and the New York Public Library.



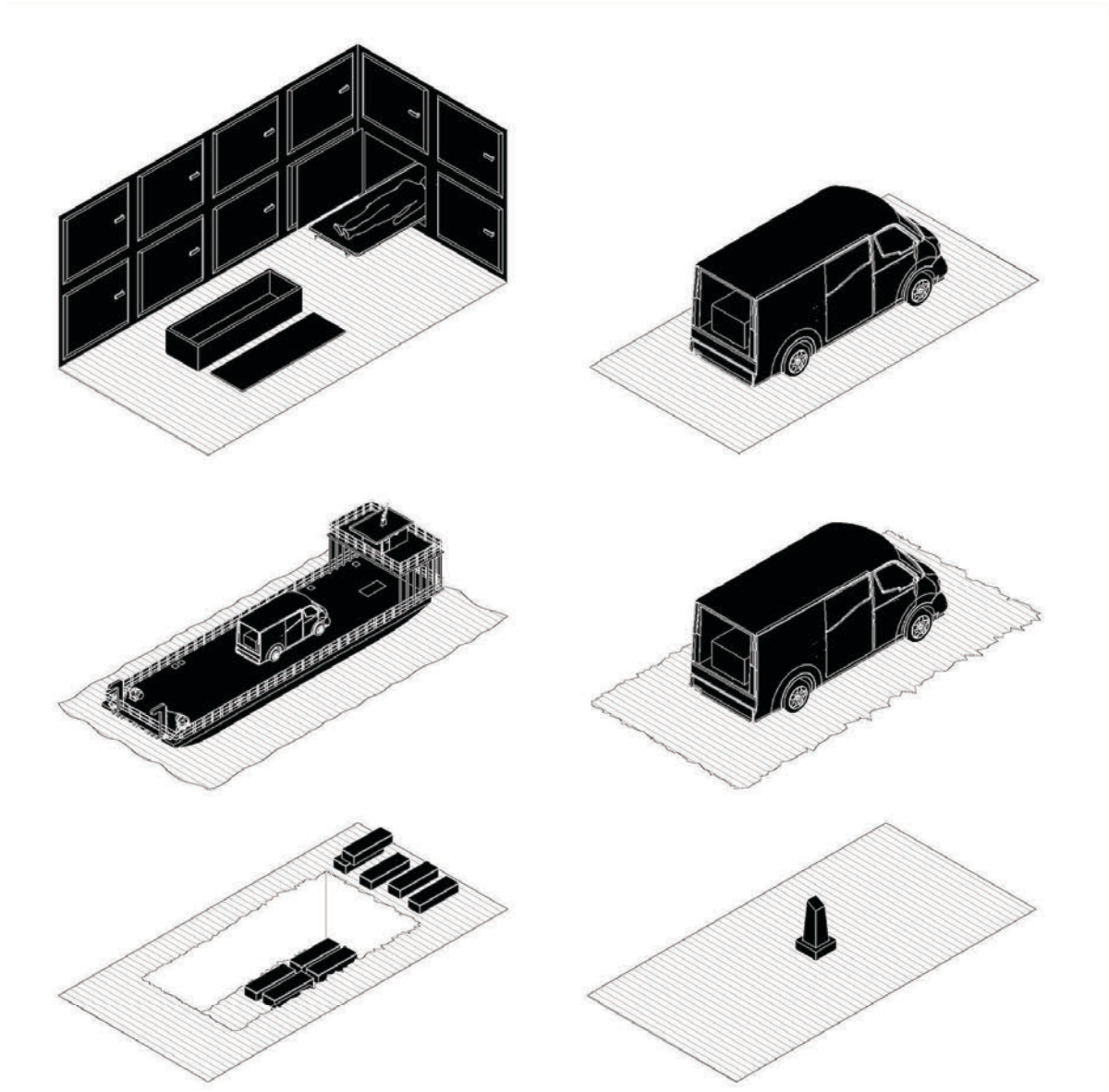


# HART ISLAND



1.Jacob A. Riis, "A trench at the potter's field," 1890, Museum of the City of New York.  
2.Joel Sternfeld, "Untitled," In Hart Island, by Melinda Hunt, 1998.  
3.Joel Sternfeld, "Adult Mass Grave," 1992, Hart Island Project.  
4.Flickr User jag9889, "Hart Island Ferry Terminal, City Island, Bronx NYC," May 7, 2008.  
5."Ferry carries inmates from Rikers Island," Digital Image, DailyMail.com, Accessed December 15, 2018. <https://www.dailymail.co.uk/news/article-4977742/The-island-mass-burial-site-New-York-city-dead.html>  
6.DailyMail, "Inmates assisting in Hart Island burials."  
7.Charles Eckert, "A sign on the shore makes it clear to boaters: Stay away."  
8.Eckert, "The Hart Island ferry arrives at City Island in the Bronx in May."  
9.Eckert, "White markers designate where groups of 150 people were buried."

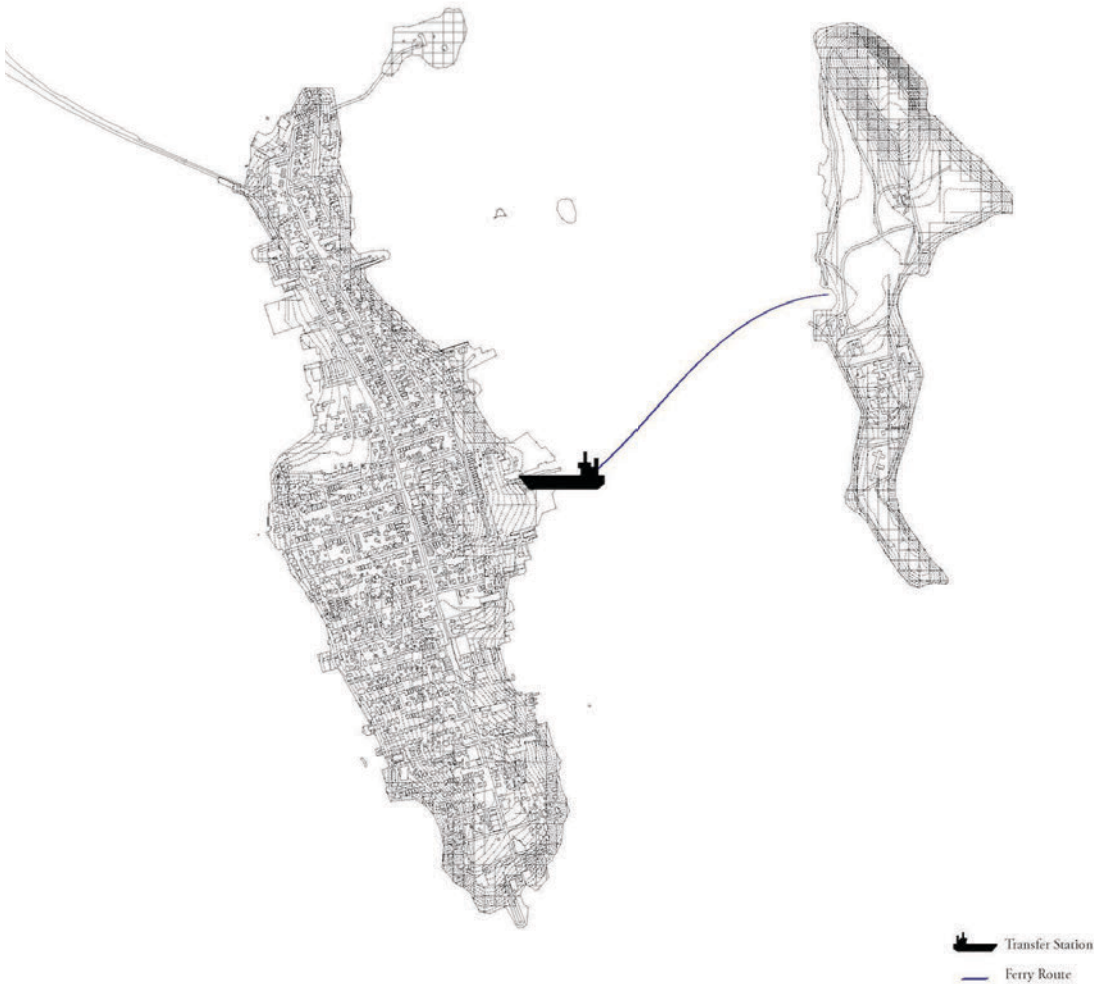
# BODY NARRATIVE



New York City also exports human bodies that are unclaimed in city morgues for several weeks or when families cannot afford to pay for a funeral. Bodies are transported from the morgue and sent by ferry to Hart Island, where inmates place the coffins in burial plots meant to fit 150. The island currently houses over 1 million bodies in a process that treats death in a quantitative and industrial manner.



ROUTE



The bodies are brought by vans to City Island, where a ferry transports the bodies and inmates to Hart Island, going unnoticed by city dwellers.

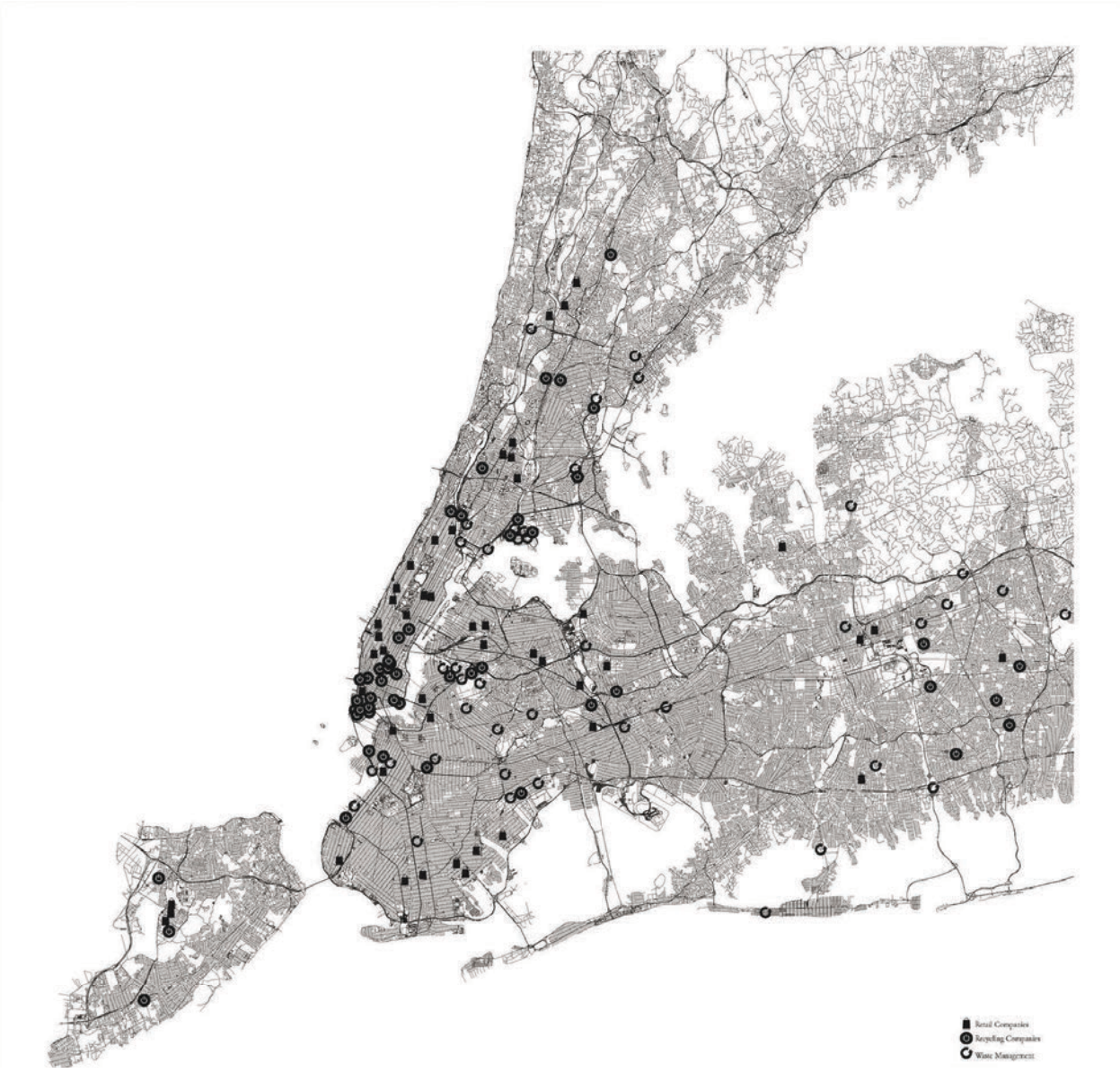
## ~~NYC: NON-HUMAN DEATH~~

*“In different ways according to local economic and social contexts, young bodies are being configured by digital technologies through the channels of privilege and oppression.”*

*“The posthuman potentialities of the Global North’s immaterial fetish objects become recast as material ruins for the Global South.”*

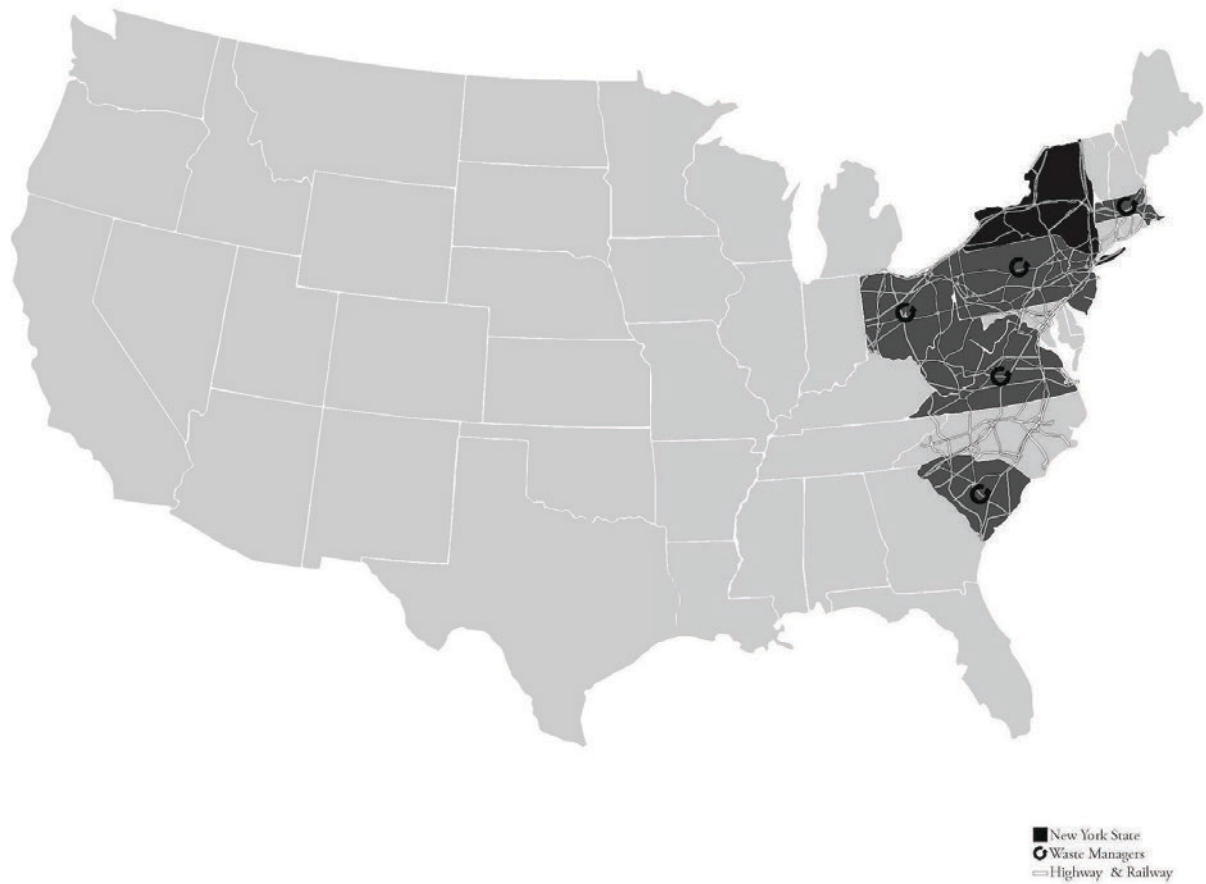
*-Rosi Braidotti*

# DEAD TECH. DISPOSAL



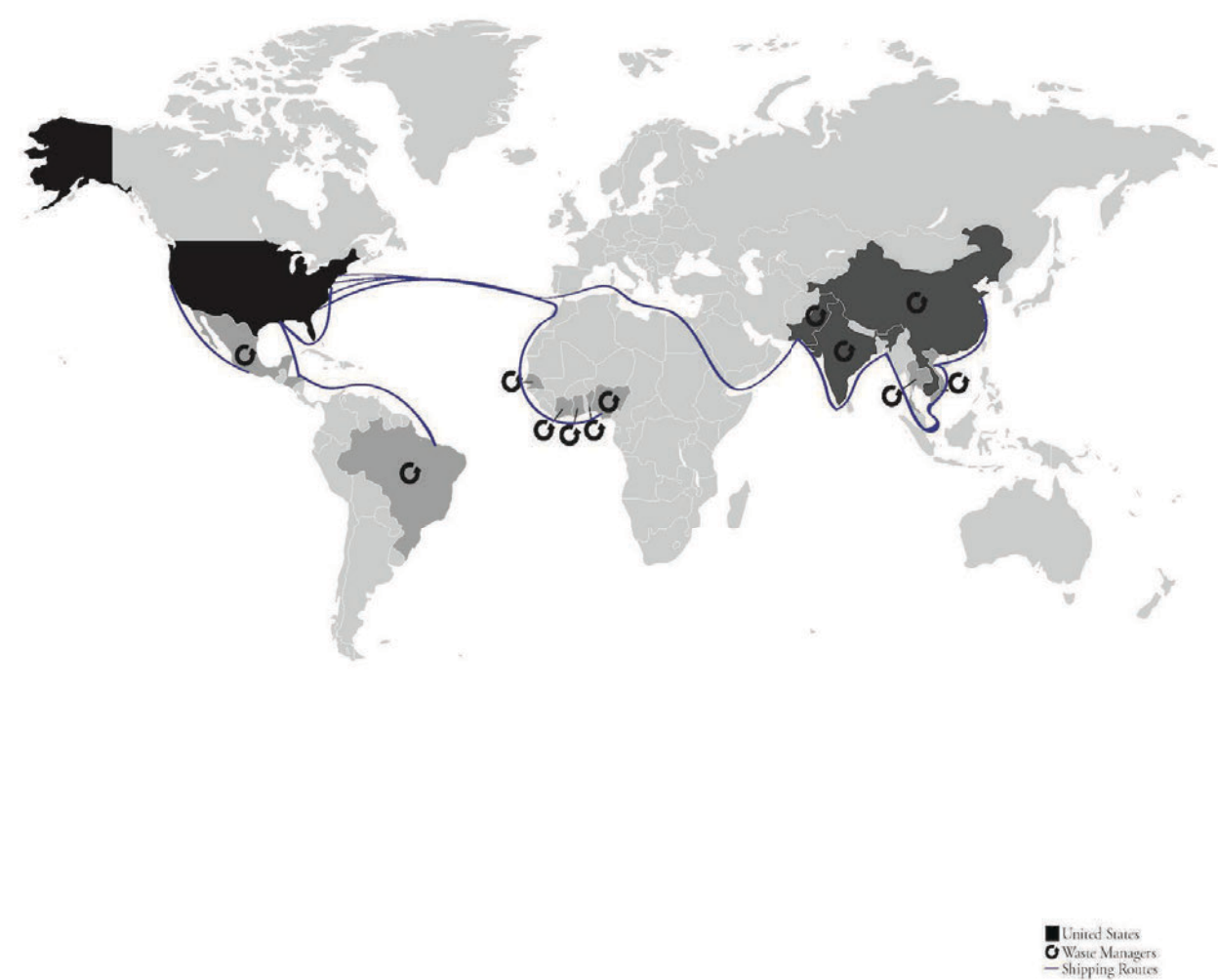
New York City dwellers have three options when disposing electronics. Several companies, such as Apple and BestBuy, will receive the products and recycle them. Other businesses try to reuse and refurbish the products. However, most of the e-waste gets handled by the city, which sorts it in waste management sites.

# NATIONAL TRADE



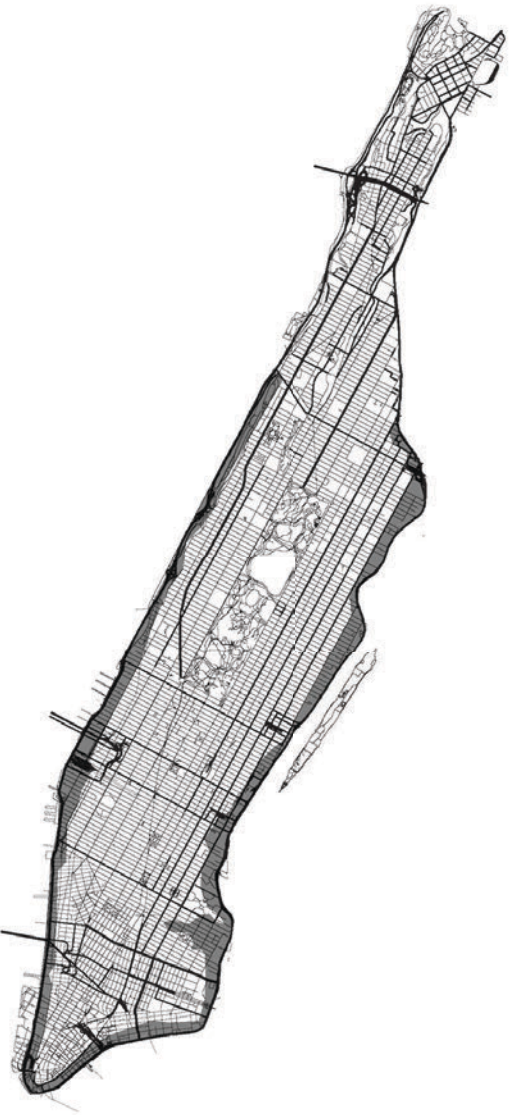
Currently, NYC's system relies on waste transfer stations along the river that transport waste to New Jersey, where it gets redistributed and sent again to other states such as Pennsylvania, South Carolina, Virginia, and Ohio.

# GLOBAL TRADE



Hazardous e-waste gets shipped to countries with poor regulations and cheap labor, such as Vietnam and Thailand, to recycle these materials at a profitable cost. 80% of these exports would have been sent to China, but after it banned waste imports in 2018, e-waste is being sent to poorer countries and piling up at the few recycling facilities in the nation.

# LANDFILL EXPANSION



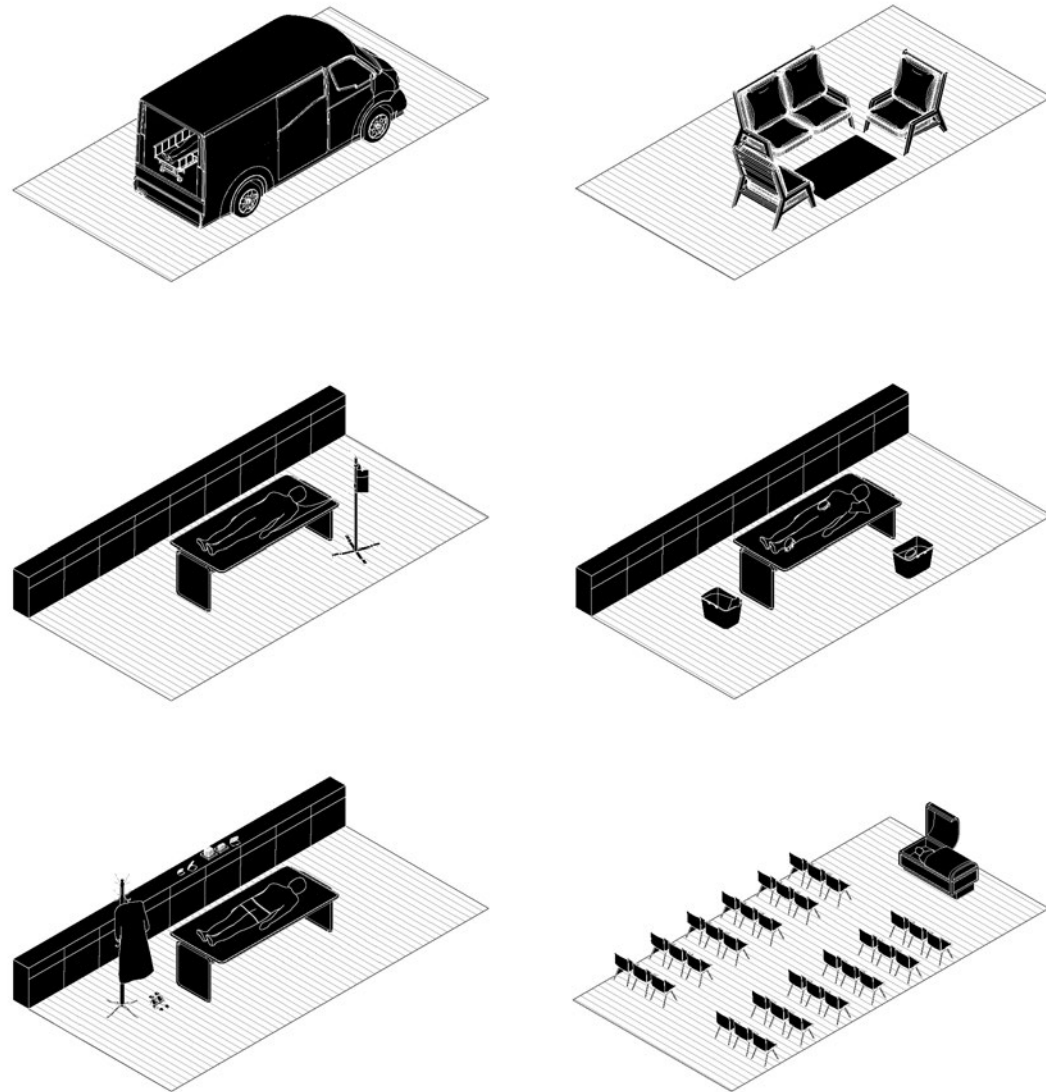
Handling waste is not a new issue for the city, as Manhattan's waterfront is built on waste that got dumped into the ocean during the 18th century.

## FUNERAL HOME

These insights surrounding the physical handling of waste and bodies also brings us to question how the augmentation of the body will impact the culture surrounding death. As of now, the main spaces allocated in cities that directly handle deceased bodies for memorial are funeral homes, whose services include preservation, disposal, and memorial events. As there is growing concern with how humans are affecting the environment, the current methods have become problematic due to their heavy use of toxic substances, and energy use.

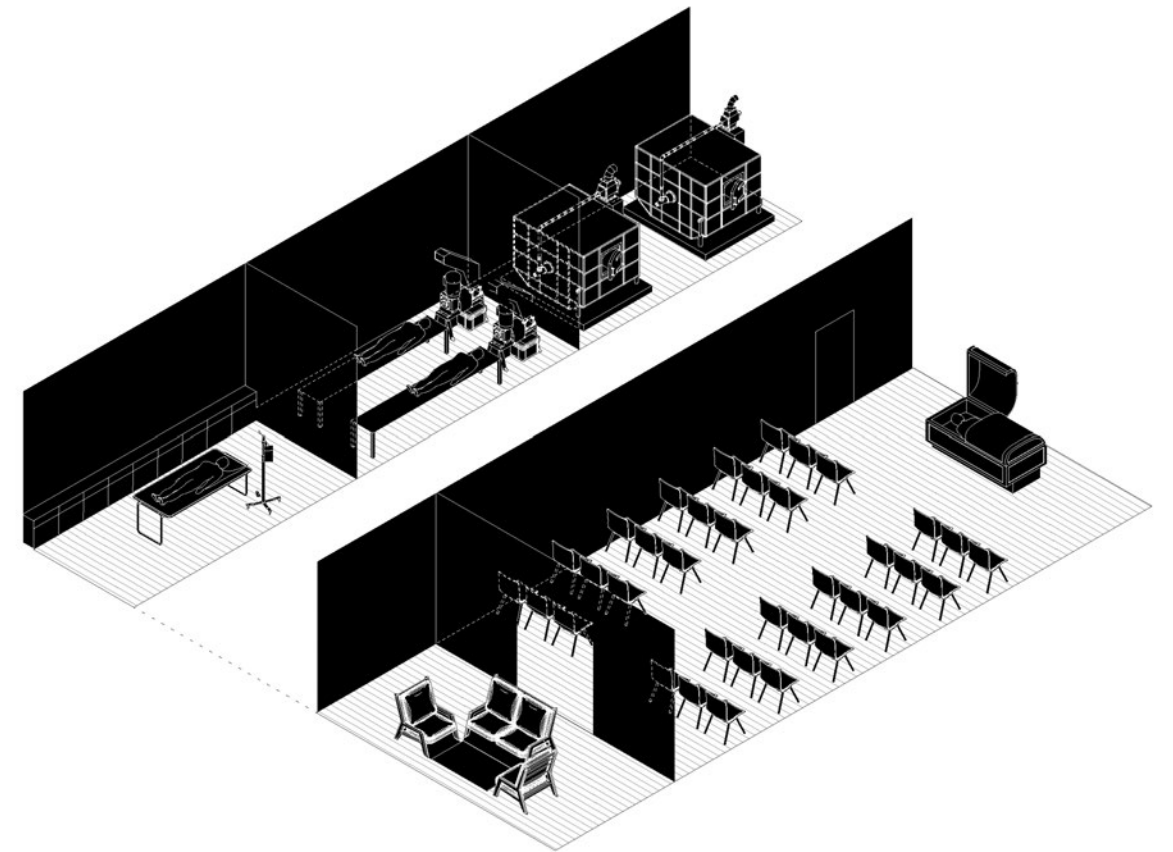


## BURIAL NARRATIVE



The body's narrative within a funeral home reveals the processes that occur in order to get a body ready for the burial, including washing, embalming, and dressing.

## FRONT VS BACK

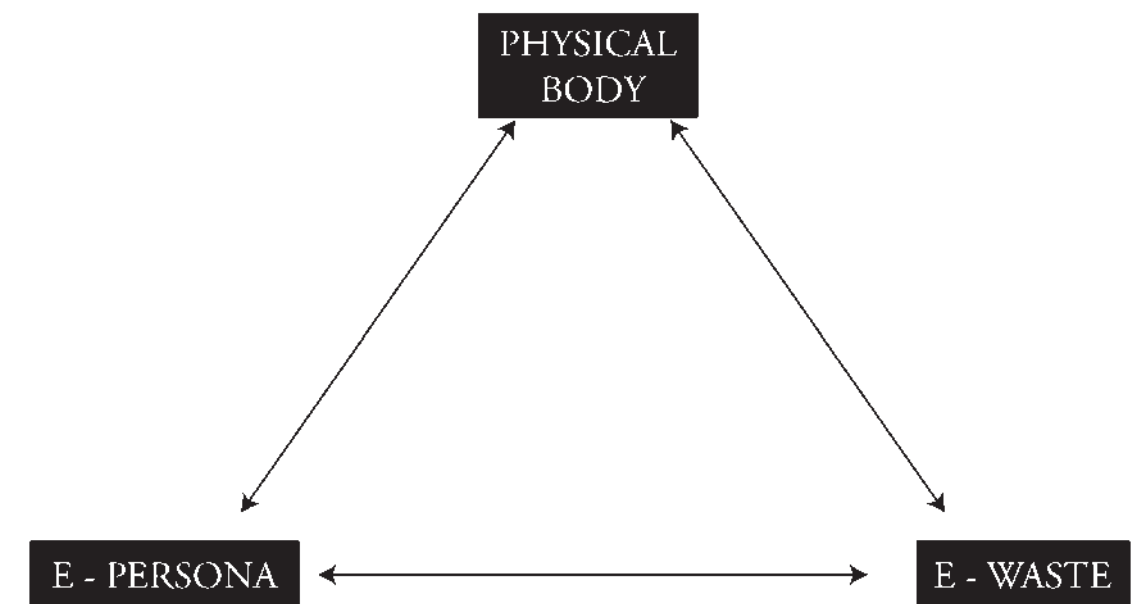
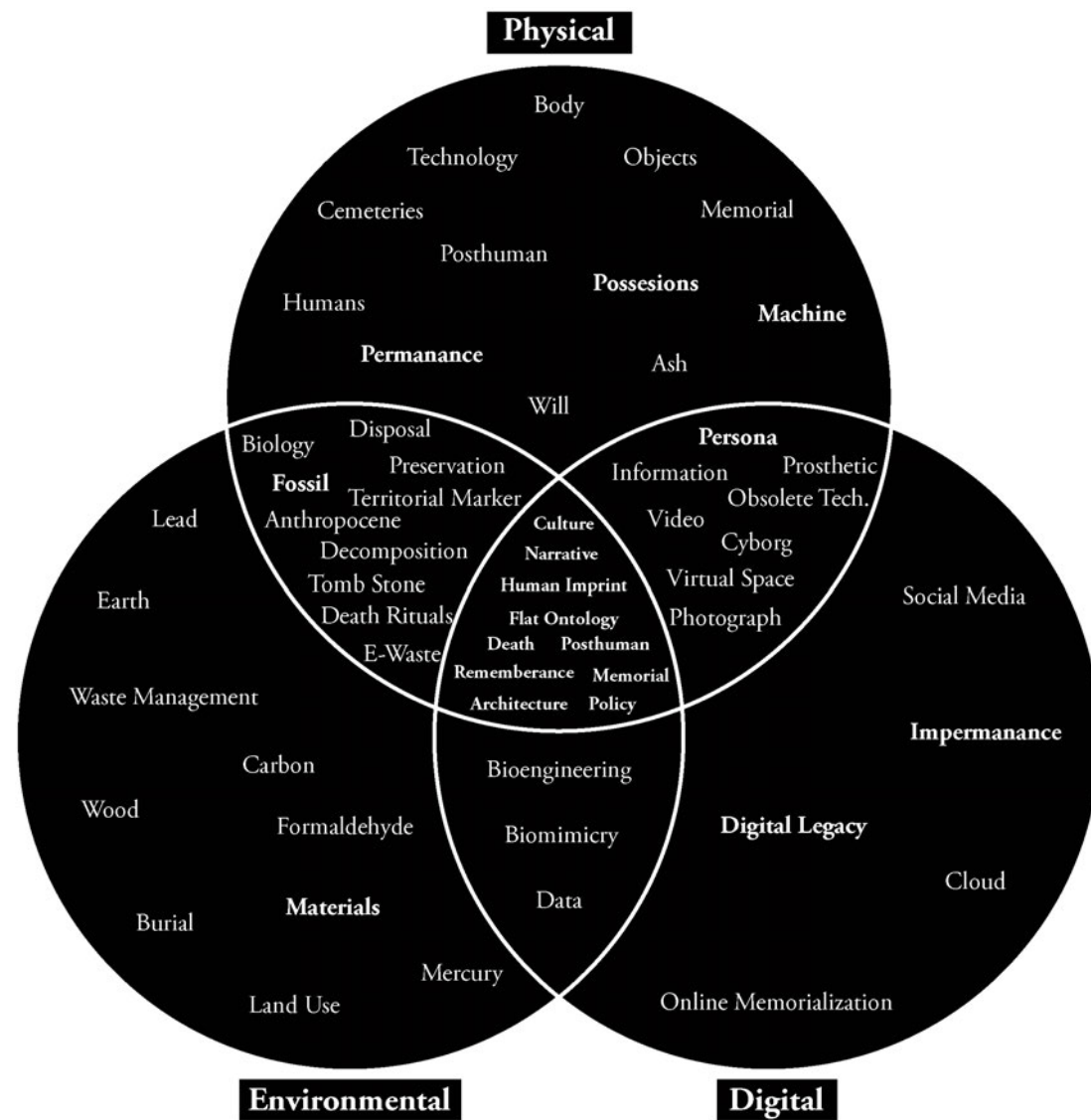


Funeral homes currently operate as industrial businesses with conventional front and back of house conditions that either reveal or conceal the services being provided, especially the parts that deal with vast amounts of formaldehyde and superglue.

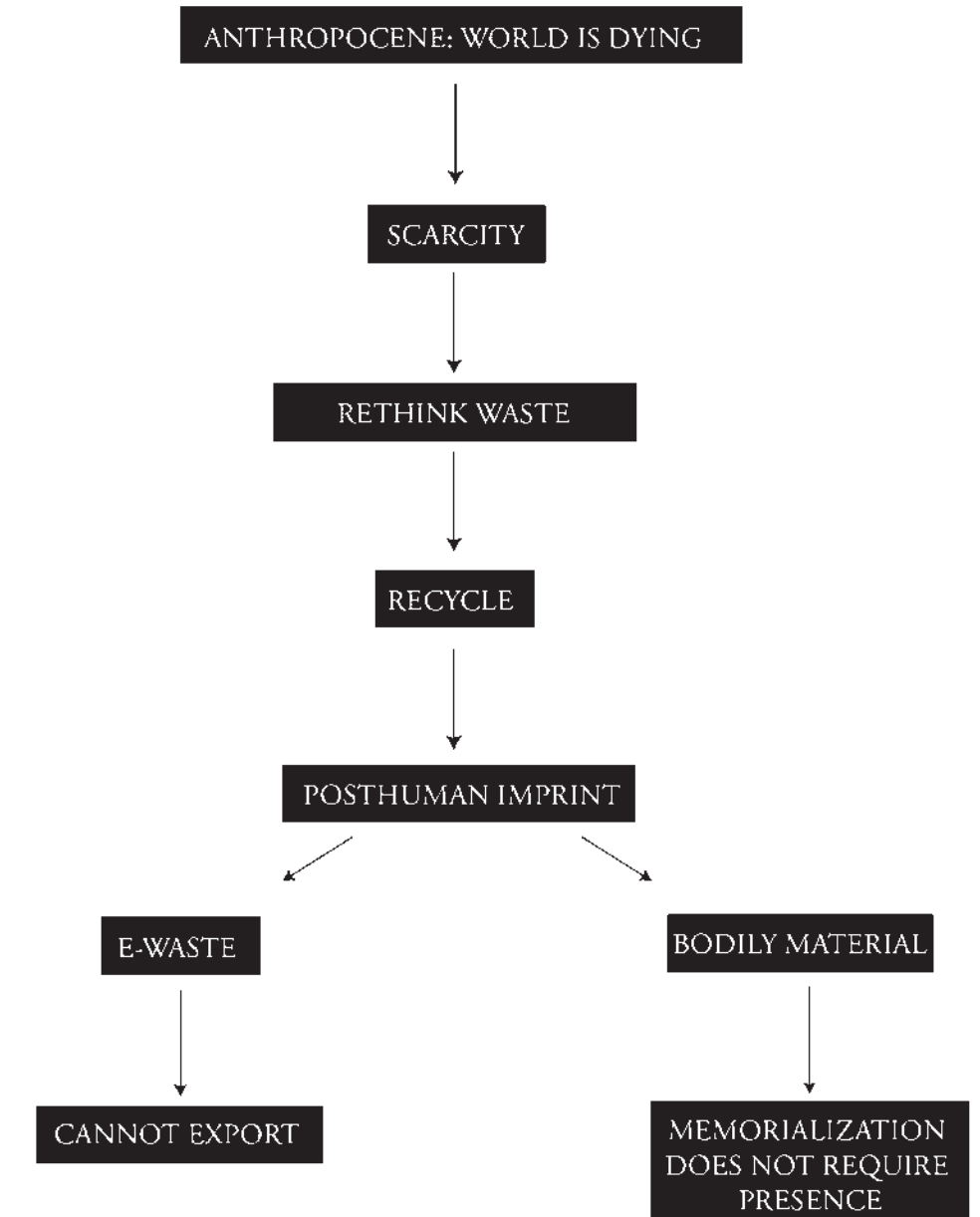
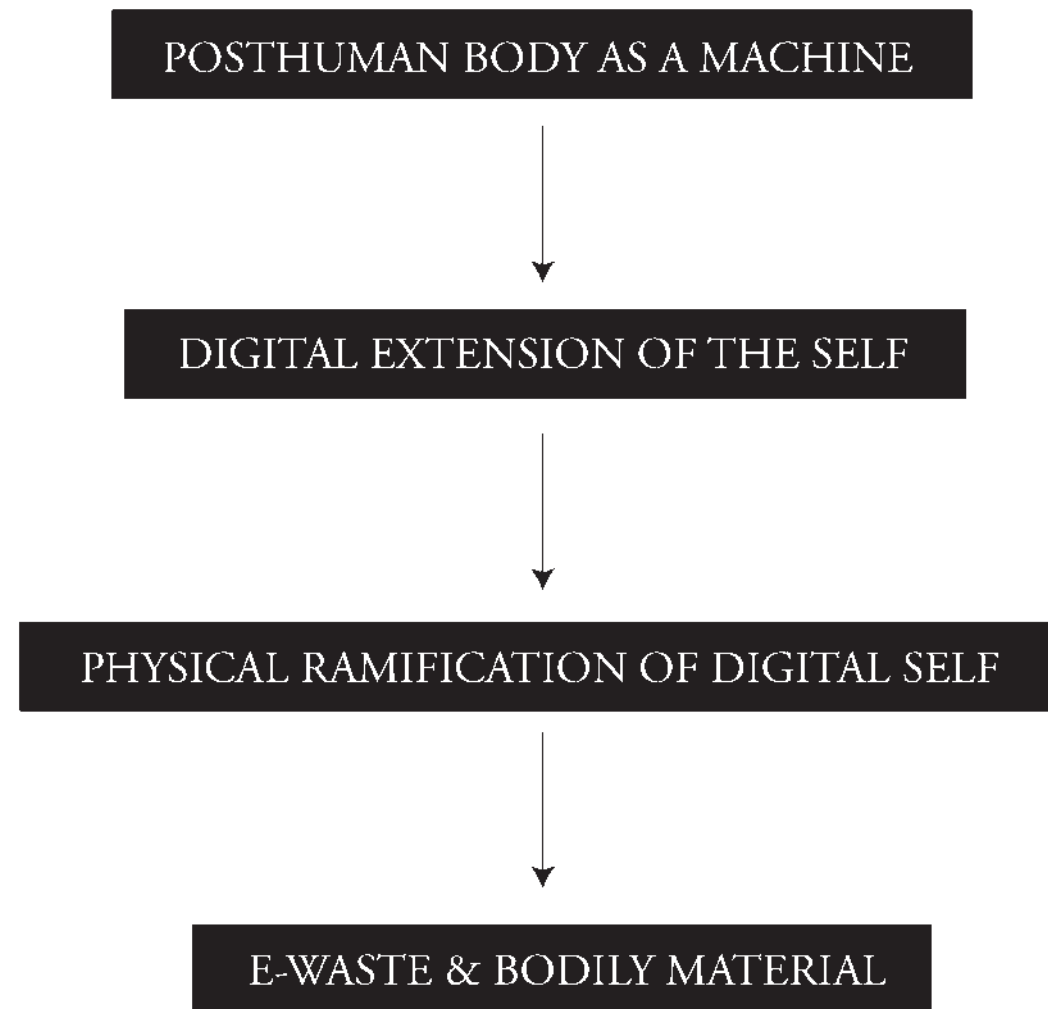
## ~~THOUGHT DIAGRAMS~~

*“A rather complex relationship to death has emerged in the technologically mediated universe we inhabit: one in which the link between the flesh and the machine is symbiotic and therefore establishes a bond of mutual dependence.”*

*-Rosi Braidotti*







## Matter: To Bury (*v*)

“Put or hide underground”

“Cover (someone or something) completely”

“Hide (something) from sight”

“Hide or try to forget (a feeling or memory)”

-Oxford Dictionaries

*“All materiality is inherently lively, exerting agency regardless of human alliance or intention. This omnipresent but often unobserved vitality invites a disanthropocentric ecology and a more complicated worldedness, one in which matter cannot be reduced*

*to resource.” - Rosi Braidotti*

*“Mattering is a kind of posthumanist performativity that emphasizes matter’s capacity to matter, to achieve significance in its being as doing. Matter here is not ground or essence, but agentive, ‘pro-*

*duced and productive, generated and generative.”*

*-Rosi Braidotti*

*“We are not just in the world, but of it.”*

*- Jonathan Hale*

~~MATTER~~

COCOON

*“Labyrinth’s preservation efforts are a reaction to the suddenly real possibility of a posthuman future and the question of what will remain of us when we are gone. These are the very concerns which animate the current discourse on the Anthropocene. In the 1950s, the existential threat was nuclear war; today it is climate change. Both evoke the image of a ‘world without us’, where life goes on in our absence” - Kari Driscoll*

We speculate on alternative ways to bury, rethinking what it means to preserve, reveal, and conceal. Burial becomes cocooning, encapsulating, encoding, and shrouding, actions that attempt to memorialize the digital and physical imprints of the posthuman. These verbs become the basis of how architecture mediates the thresholds of different processes and their levels of exposure.



## FOSSILIZE

*“It’s likely that the archaeologists of future centuries will uncover peculiar objects in the graves of the millennial dead: silicone bags, plastic teeth and sculpted metal bones.”*

*- Frank Swain*

*“Digital rubbish then suggests... new material explorations and material practices that address the splintering and complex inputs, outputs and posthuman transformations that accompany our technoecological digital lives.”*

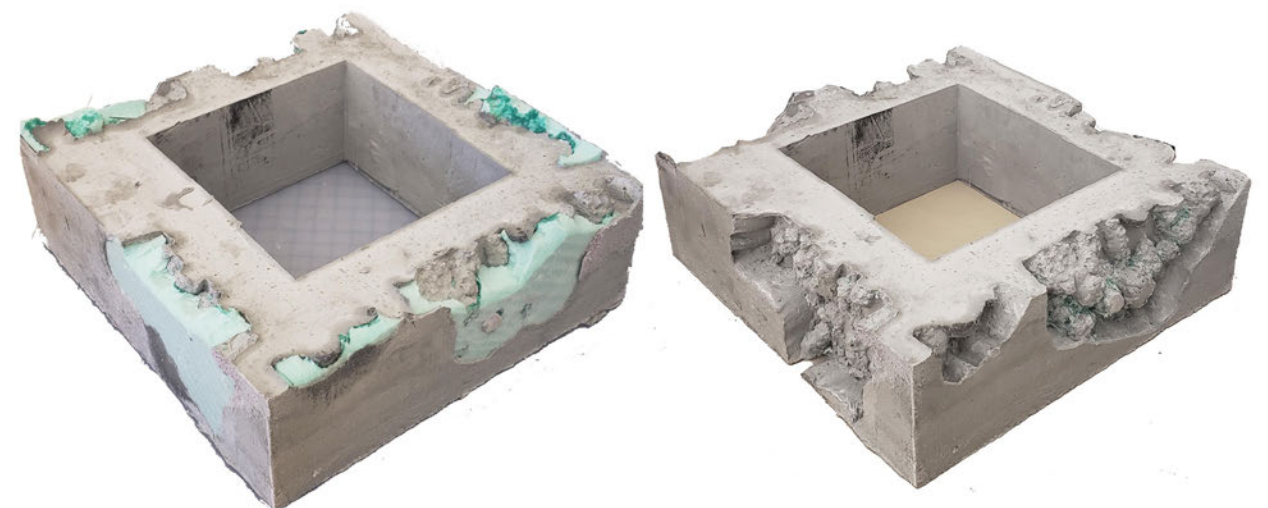
*- Rosi Braidotti*



## DECOMPOSE

*“While ‘mattering’ is often approached as a process of things coming into being, mattering also occurs through the dissolution of things and the residue and fallout left behind, as well as the new fossils that are formed. From these remainders, new material conditions, human and non-human entities, as well as environments and techno-geographies form.”*

*- Rosi Braidotti*

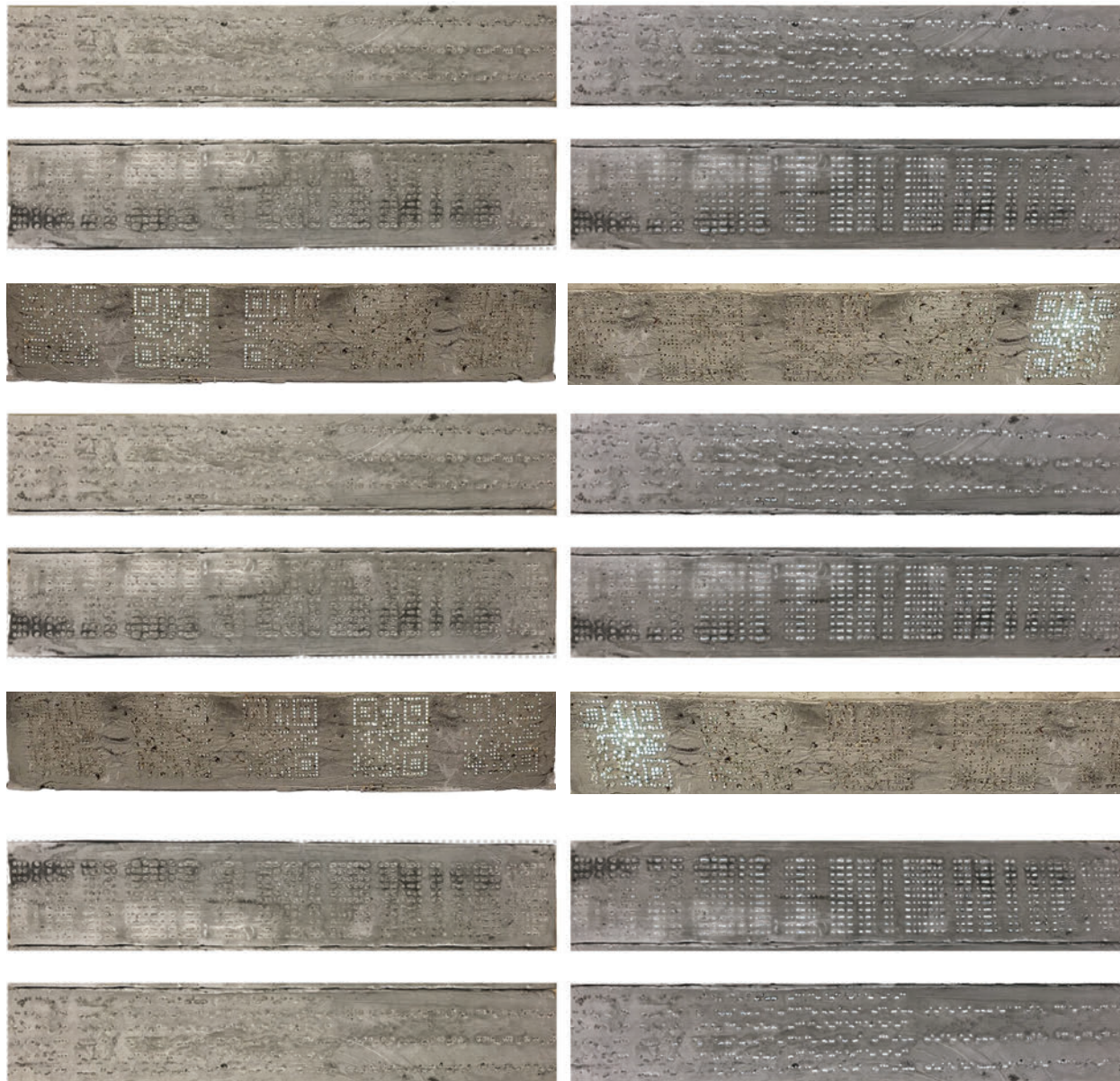




## ENCODE

*“The world itself, then, is a storehouse for memories. Unlike the cyborg living in a controlled lab, the posthuman subject lives within historical time within an enculturated world”*

*- Travis Collins*



## ENCAPSULATE

*“New materialism challenges such anthropocentrism and recognizes that objects themselves have agency. They capture earlier moments and promise us stories by outliving the time in which they first came into being. Crucially for memory studies, their materiality often secretes more meaning than that which was consciously inscribed in them, making them into what I have elsewhere called ‘accidental archives.’”*

*- Ann Rigney*





## SHROUD

*“Visible and mobile, my body is a thing among things; it is caught in the fabric of the world, and its cohesion is that of a thing. But because it moves itself and sees, it holds things in a circle around itself. Things are an annex or prolongation of itself; they are en-crusted into its flesh, they are part of its full definition; the world is made of the same stuff as the body.”*

*- Jonathan Hale*



## WRAP

*“To become is not to attain a form but to find a zone of proximity, indiscernibility, or indifferenciation where one can no longer be distinguished from a woman, an animal, or a molecule - neither imprecise nor general, but unforeseen and nonpreexistent, singularized out of a population rather than determined in a form.”*

*- Neil Leach*

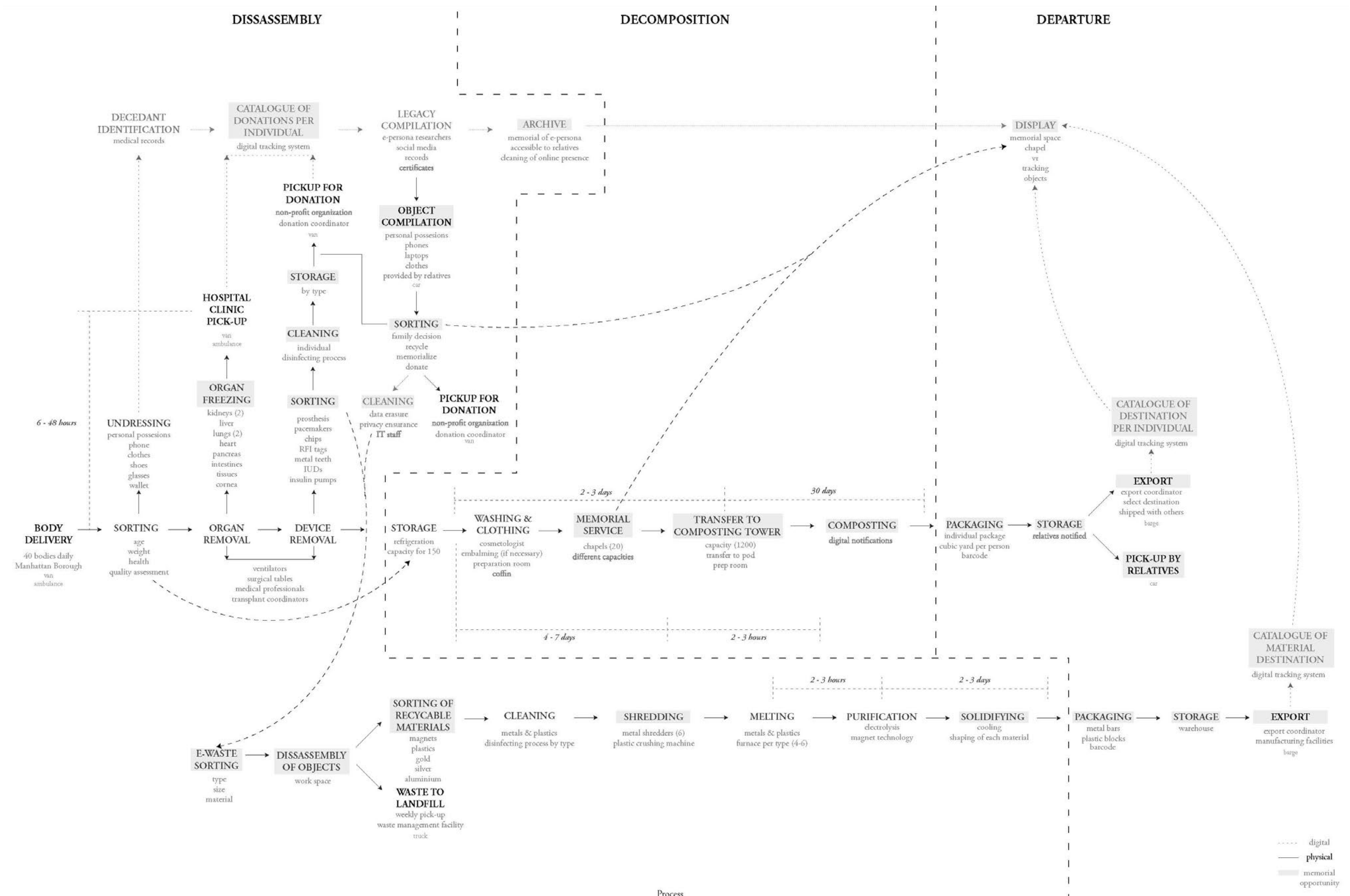


## ~~PROPOSITION~~

We are proposing a new architecture for the physical disposal and memorialization of dead bodies and their digital counterparts, where the separation of memorial from the corporeal can be achieved. We see architecture as the medium through which this new death ritual is created; it is the space that narrates, memorializes, and recycles our post-human bodies. Our proposed funeral home will recycle and export organs, e-waste, and compost from the decedent, seeking to memorialize the disposal process of the digital and physical, human and non-human facets of the 21st century identity. The project is understood as creating a new type of burial and memorial ritual that can respond to increasing spatial and environmental issues challenging traditional methods of burial and cremation and the ongoing cultural shift.

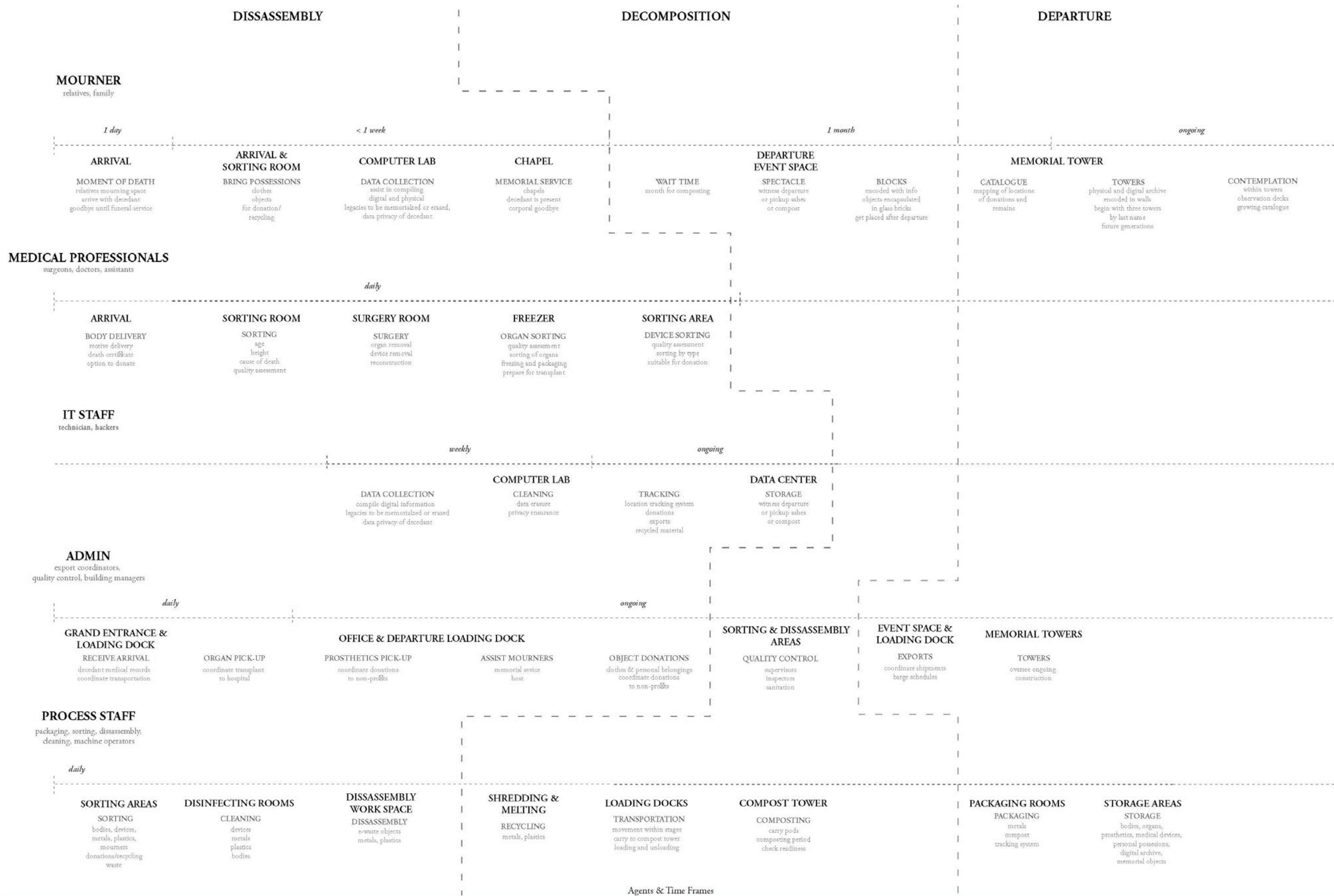
## AGENTS

New programmatic needs demand an assortment of human and non-human occupants and a range of timeframes.







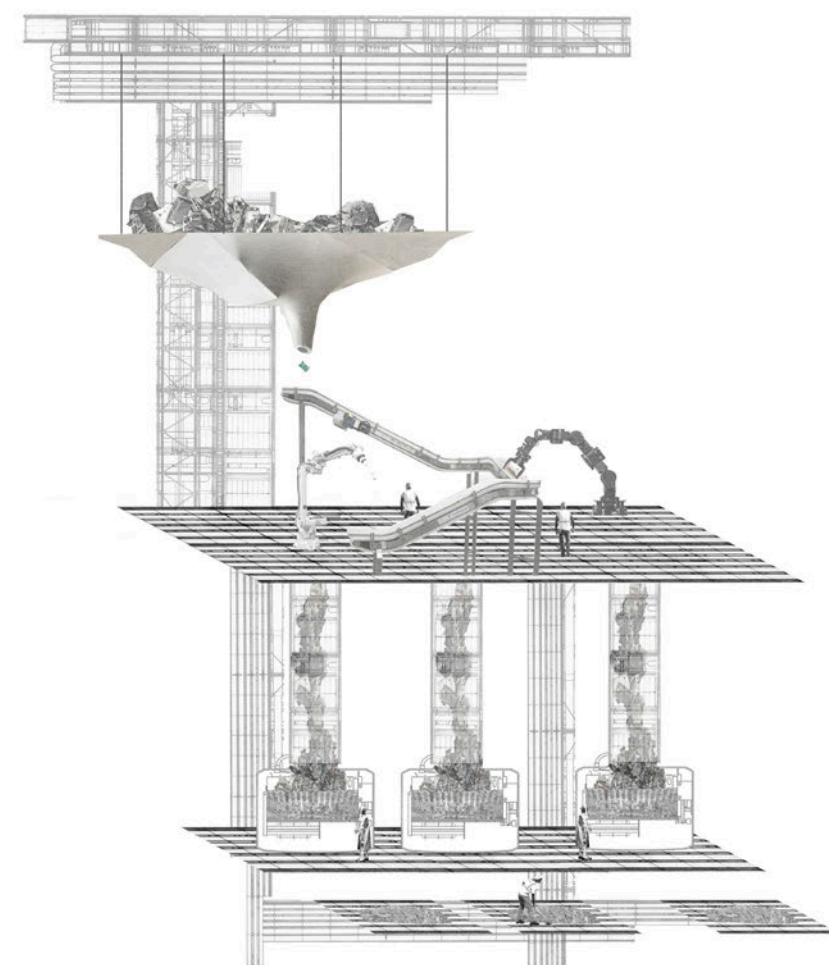
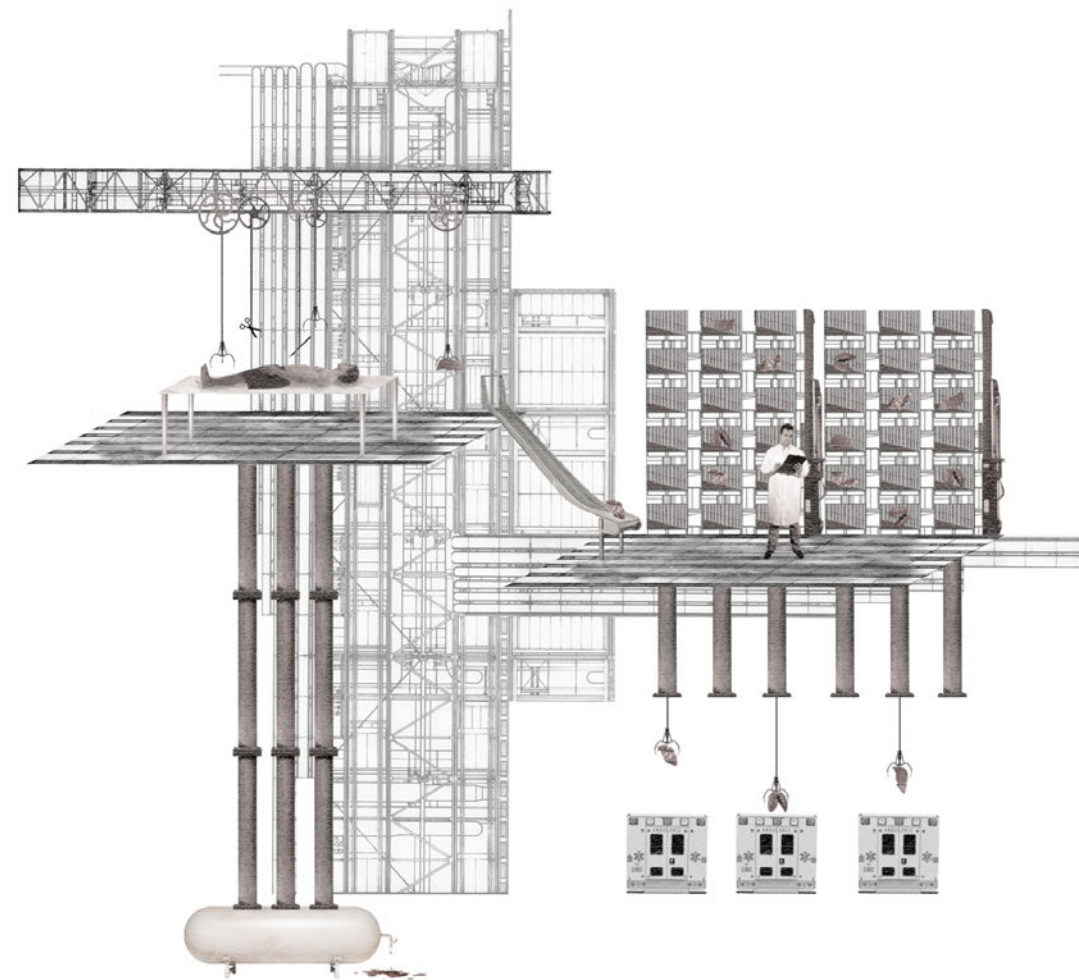


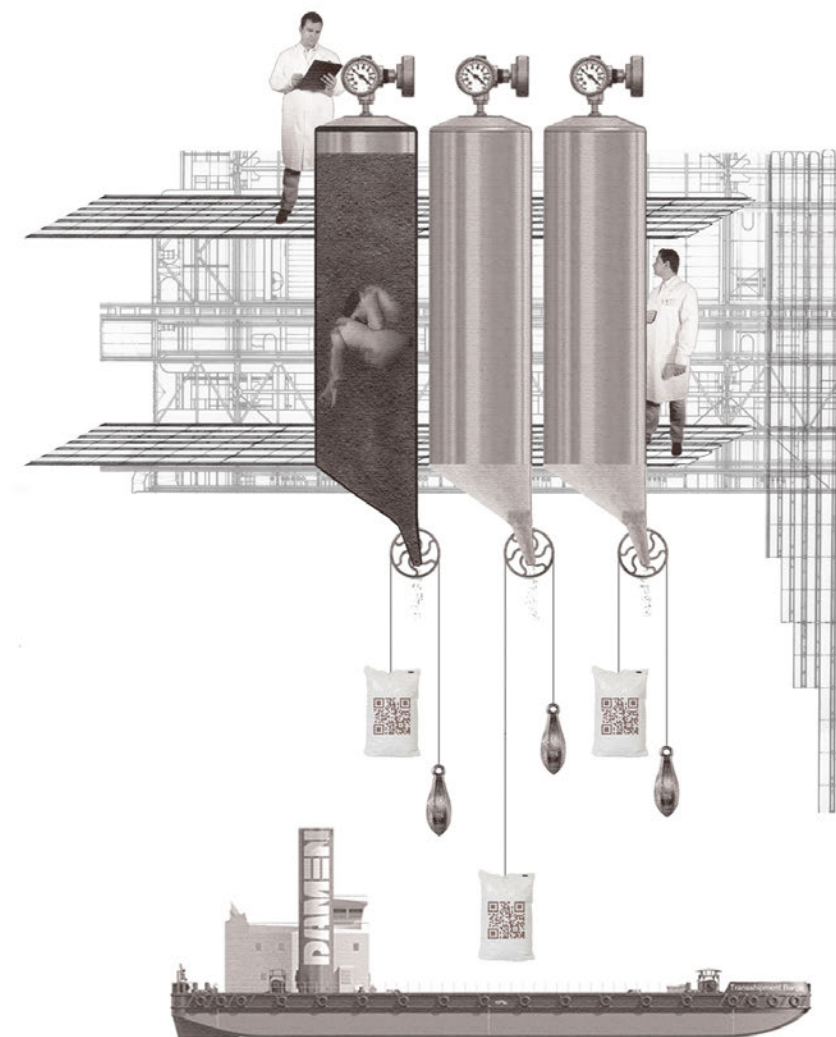
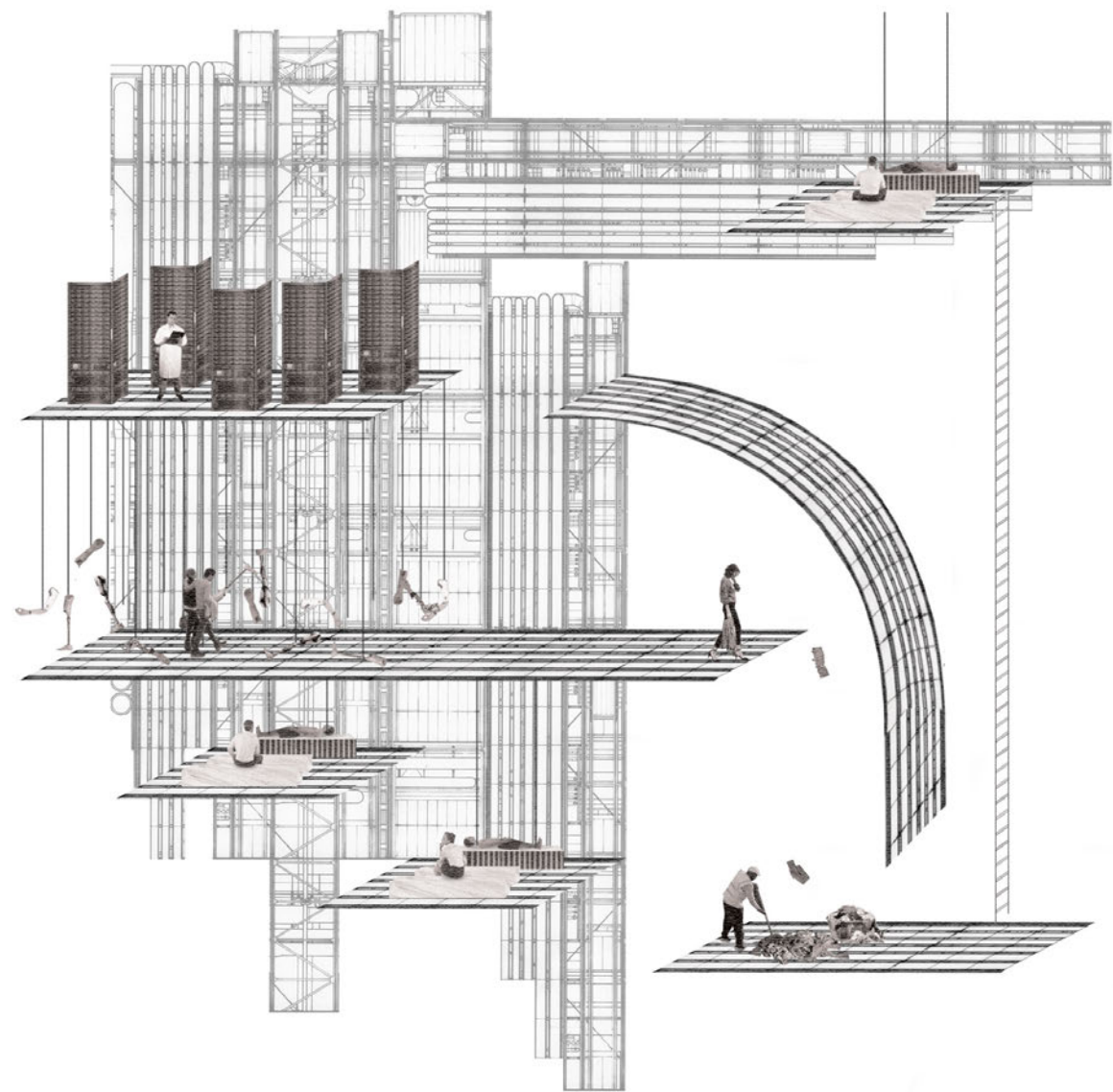


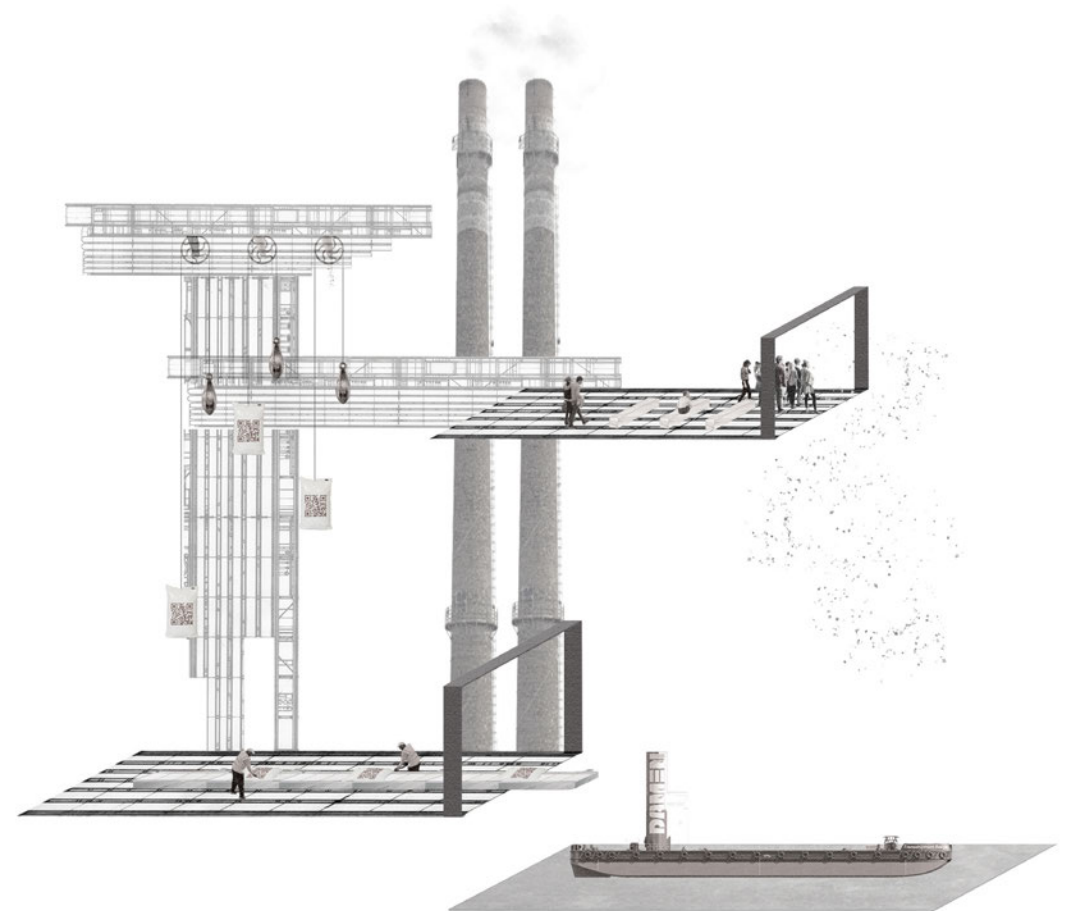
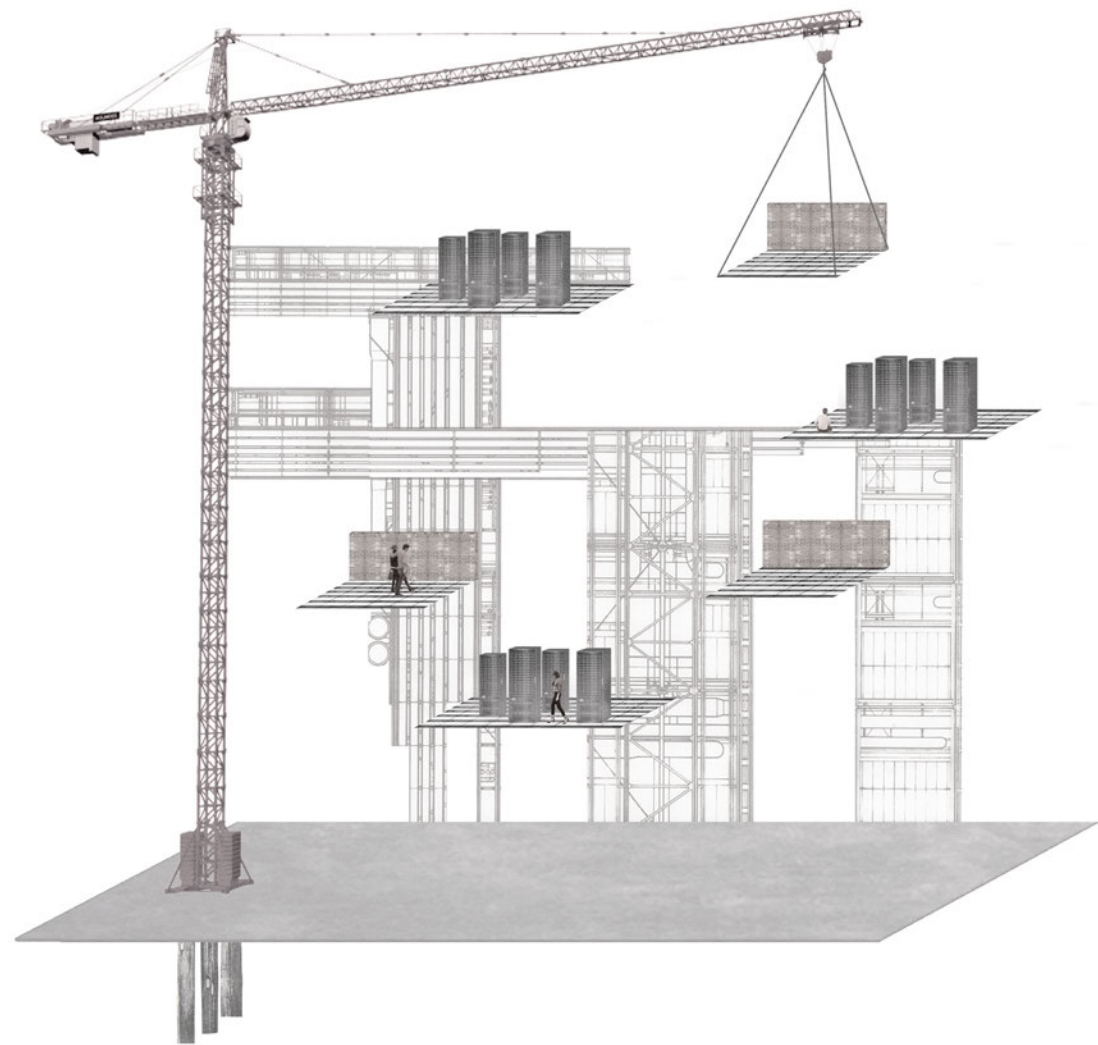
**PROCESS NARRATIVES**

We choreograph new programs necessary for the processing of the posthuman, such as organ removal, donation, e-waste recycling, data cleaning, composting, and memorial services.





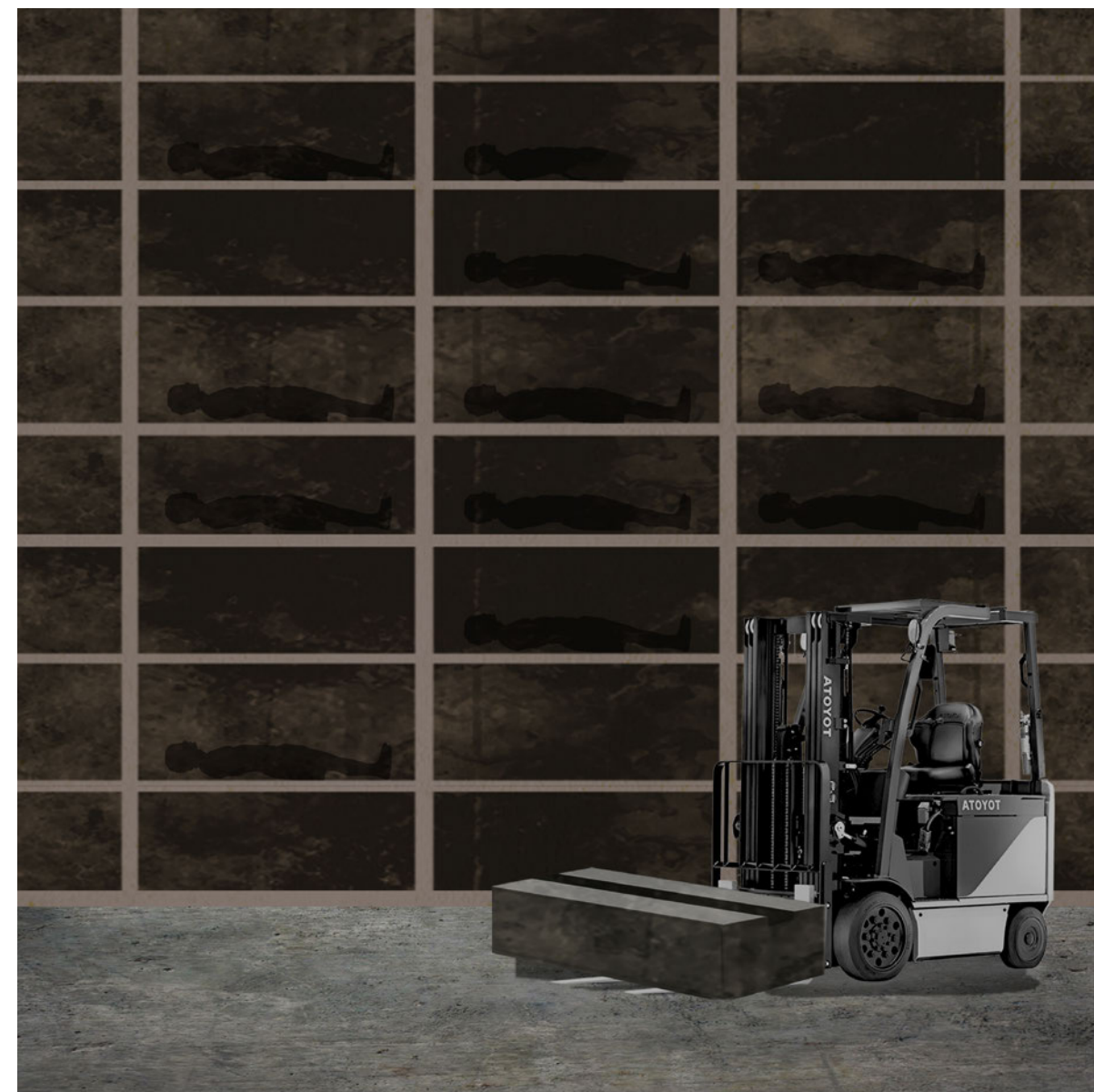




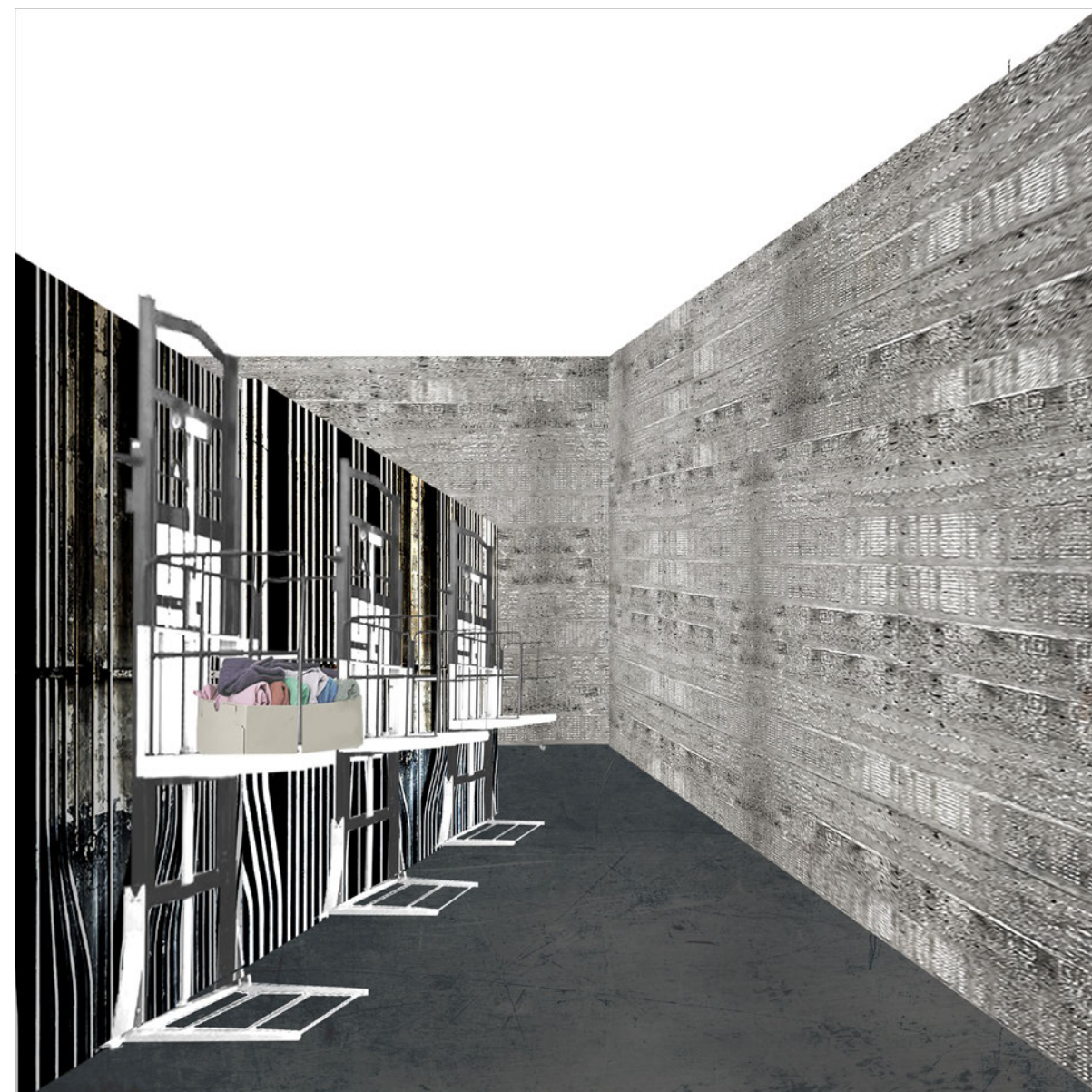


**SPATIAL NARRATIVES**

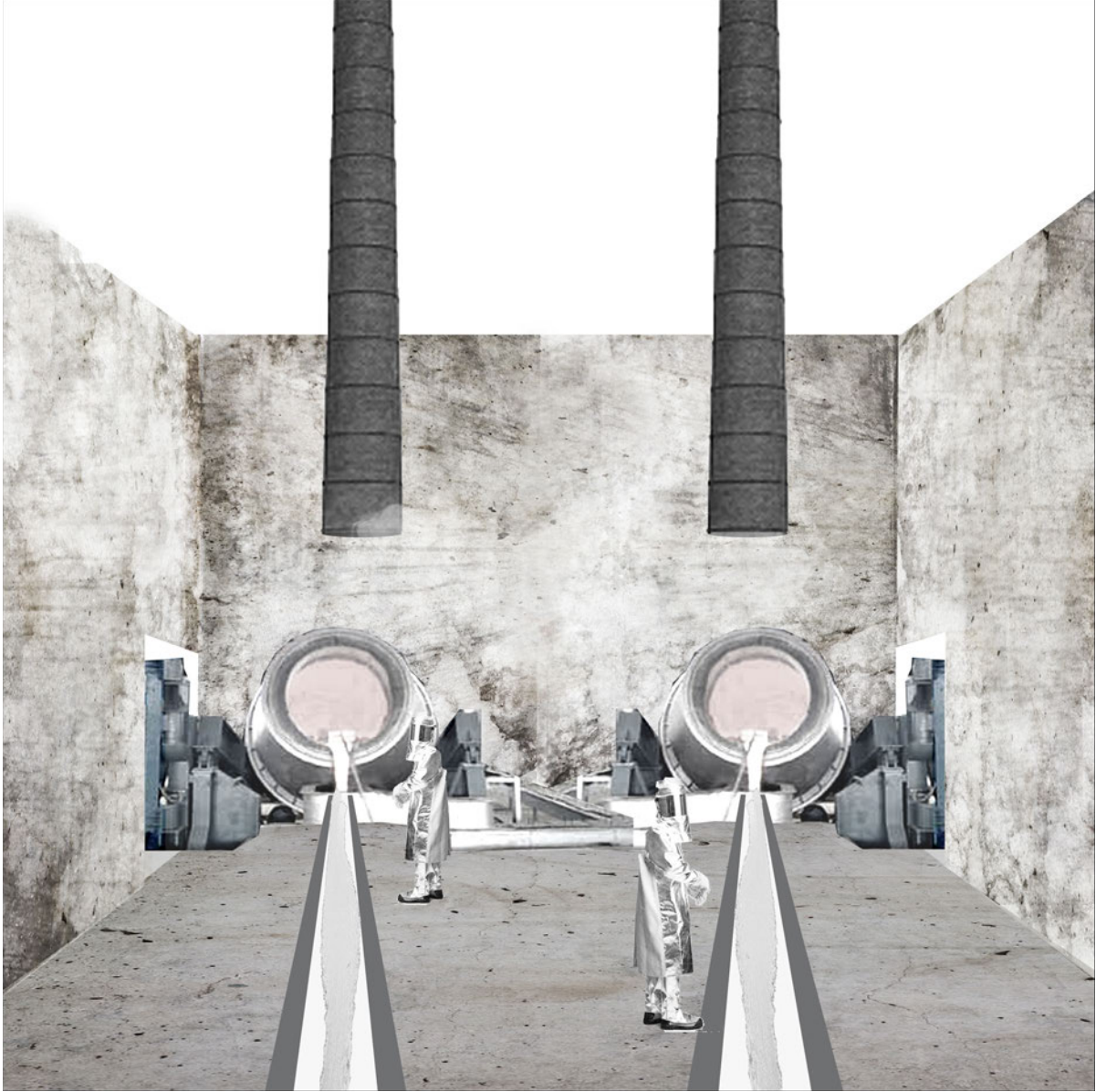
The points of intersection become the moments where we encapsulate, encode, cocoon, shroud, or wrap as different narratives collide and interact with each other.



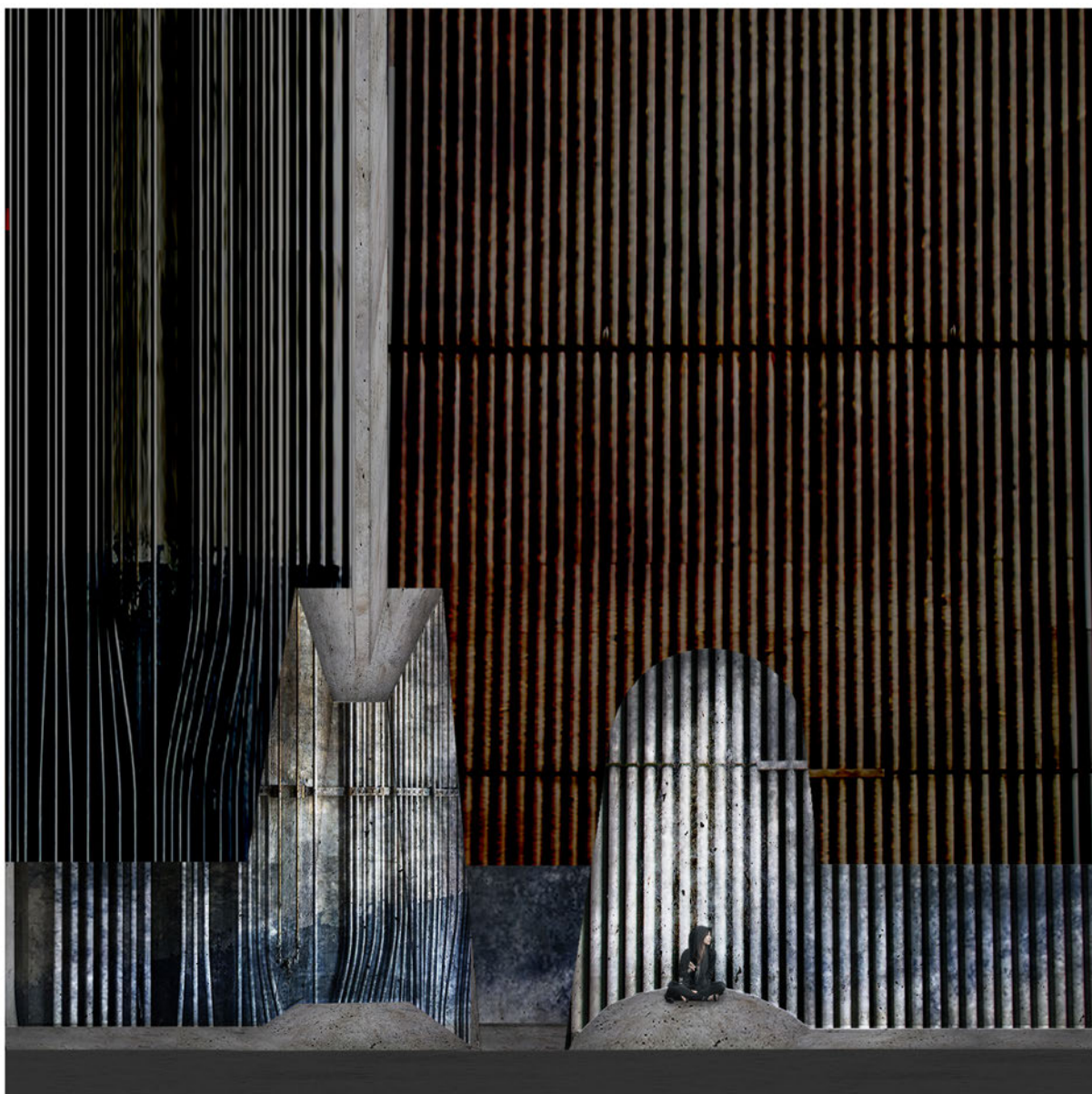


















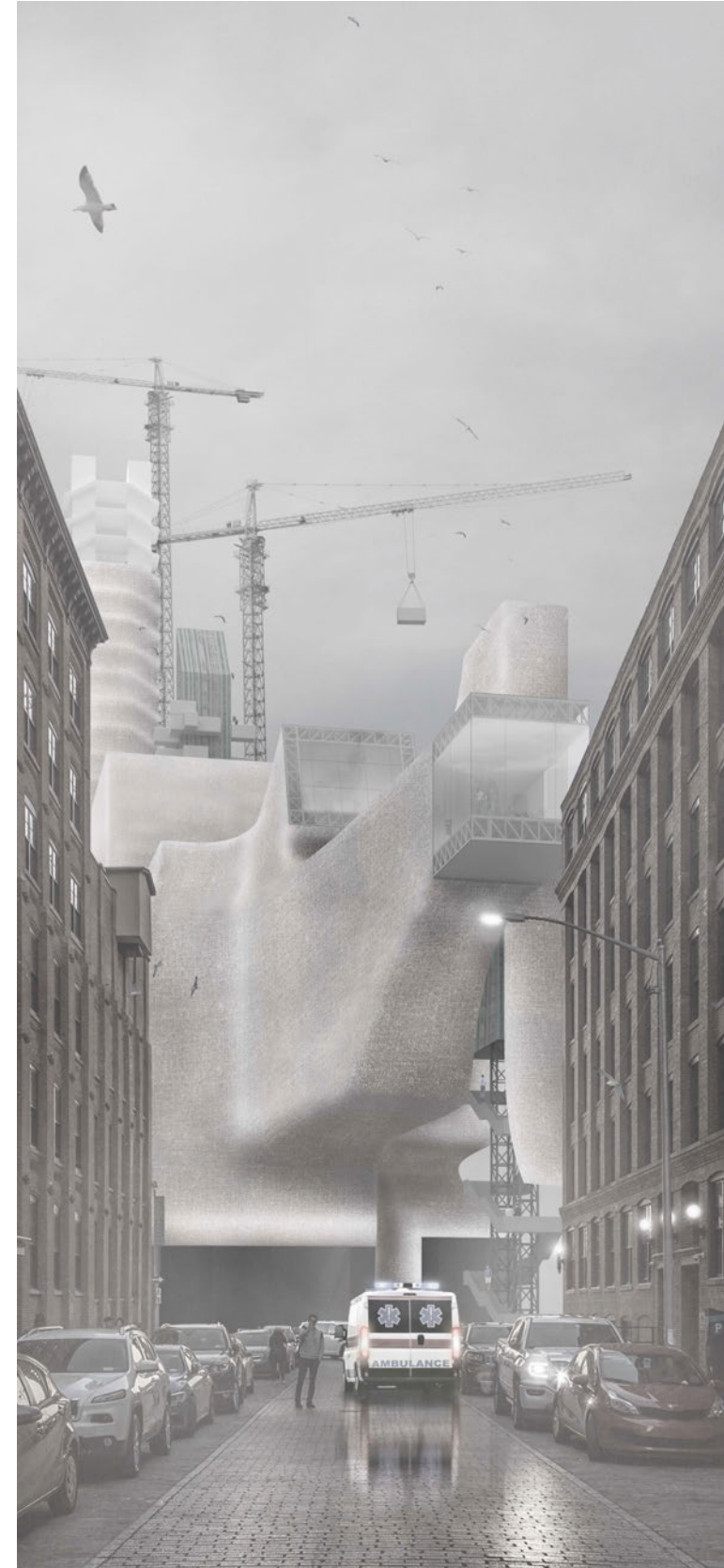
## RESOLUTION

We zoom out in order to understand how the inputs and outputs flowing through the project are made more visible and accessible. This is achieved by implementing already used infrastructure such as barges, waterways, and street networks at the Chelsea piers in Manhattan. The building is a space frame structure that gets wrapped in its own skin-bag, a panel system which at times is pierced in order to reveal processes, allow for transportation, or grow to contain accumulation.

**AERIAL**

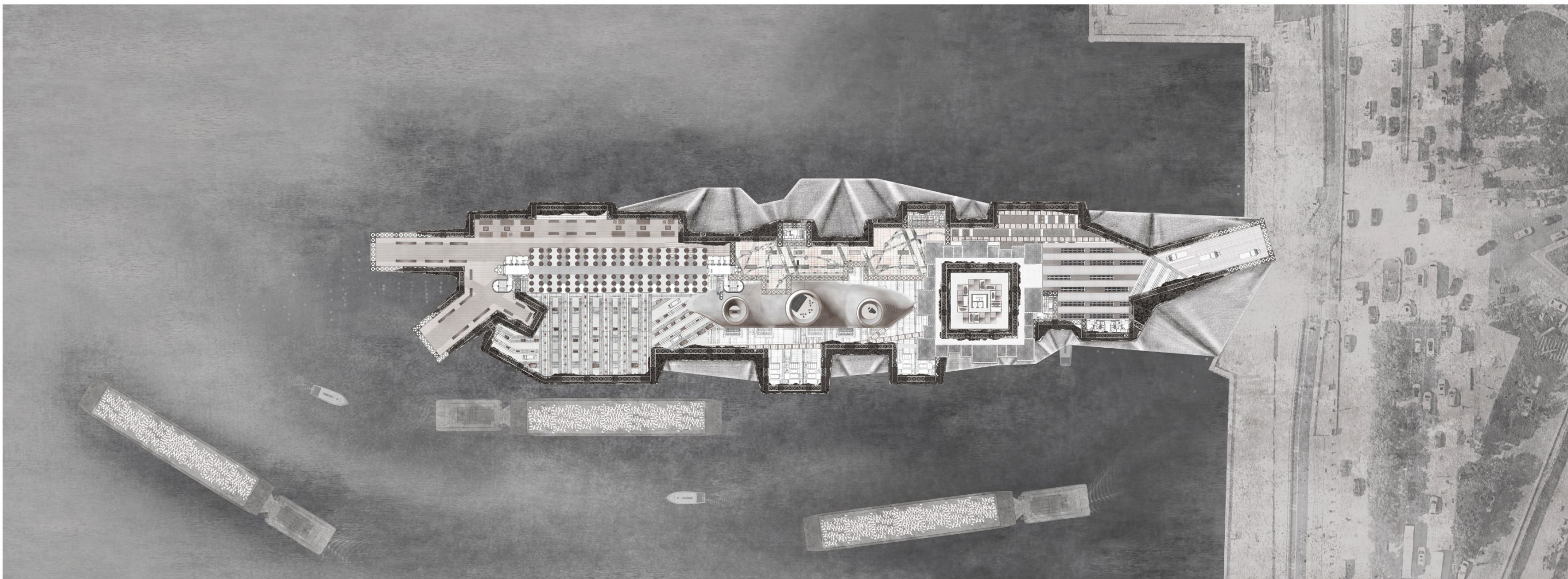


**STREET VIEW**

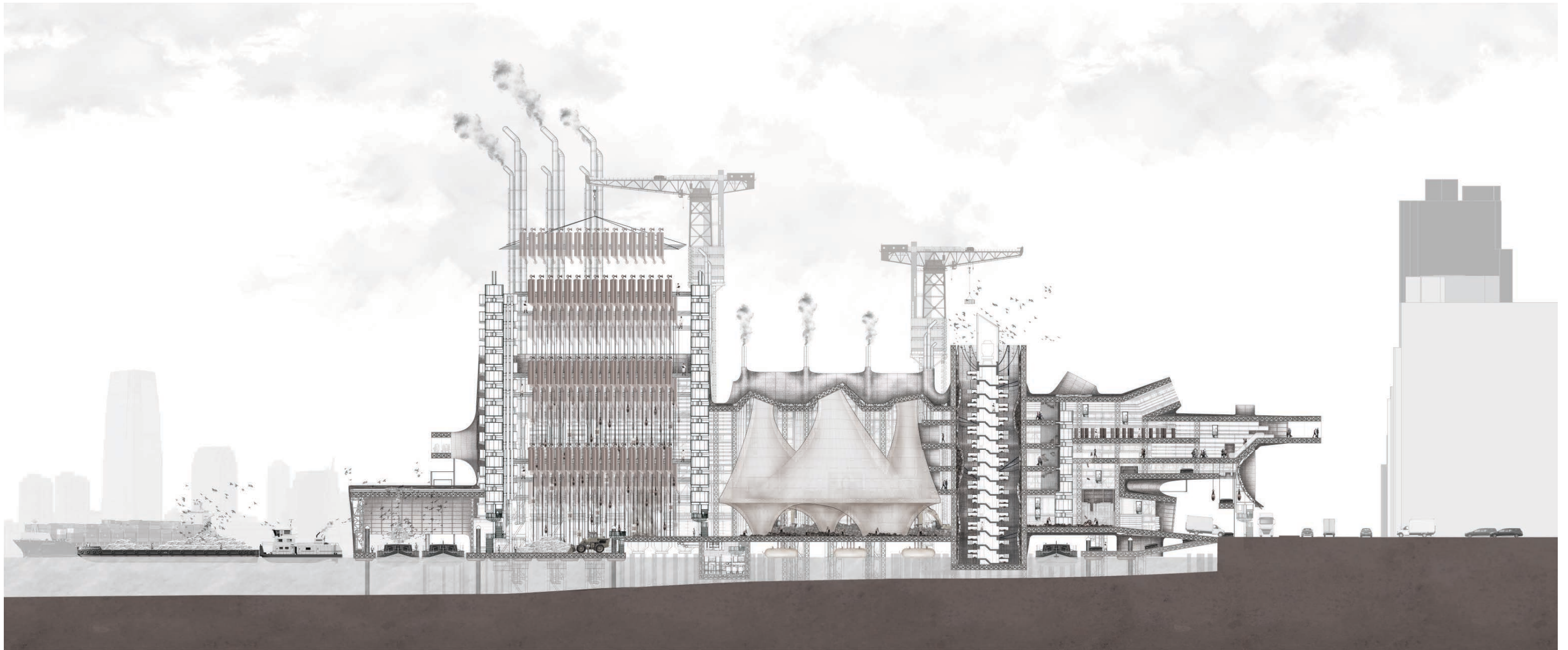


A body arrives in an ambulance, and after going through surgical removal of organs and metals, is stored in the morgue until a memorial service is held. An event space exists in the center, allowing mourners to host multiple types of ceremonies and celebrations as they give their social farewell to the body. The space hovers above the veiled recycling floor, where objects such as phones, laptops, chips, and prosthetics are cleansed, recycled, and exported. The body is then transported to the tower where composting occurs for 30 days. A viewing area provides a space for witnessing the departure of the organic and inorganic matter of the posthuman. Ongoing memorial takes place as pods built from data encoded bricks, in an attempt to materialize the digital and give relatives access to the curated legacies of the decedent and the ability to mourn without having the body physically present.









MEMORIAL



MORGUE





## EVENT SPACE



## FACTORY FLOOR



## DECOMPOSITION



## DEPARTURE



## ~~CONCLUSION~~

According to 19th century French sociologist Emile Durkheim, “The way in which we bury our dead and mourn them is a reflection of the way we live”, thus, it is time that the architecture we use to bury, mourn, and remember our dead reflects our preoccupations on mortality and the places we accord to memorial and mourning in our urban environments. We argue that the architecture of death in the emerging posthuman society can achieve a reconciliation between our changed bodies, our ever densifying urban conditions, and the legacy of our digital identities. By removing the human-centered approach to death and combining existing narratives, we level the importance of human and non-human and better understand the ways in which our practices affect the world around us. In doing so, our argument critiques the current processes that we accord to human death and come to realize that the environment can no longer afford for humans to treat themselves with greater value.



## ~~BIBLIOGRAPHY~~

### **E-WASTE:**

- Baldé, C.P., Forti V., Gray, V., Kuehr, R., Stegmann, P. "The Global E-waste Monitor 2017." United Nations University (UNU), International Telecommunication Union (ITU) & International Solid Waste Association (ISWA), Bonn/Geneva/Vienna.
- Burns, Jes. Profita, Cassandra. "Recycling Chaos In U.S. As China Bans 'Foreign Waste.'" National Public Radio: Podcast Dec 9, 2017.
- Campbell, Katie. Christensen, Ken. "Where does America's e-waste end up? GPS tracker tells all." PBS, May 10, 2016.
- Carrig, David. "The US used to ship 4,000 recyclable containers a day to China. Where will the banned trash go now?" USA Today, June 22, 2018.
- Department of Sanitation New York City. "E-Cycle" NYC's Free Electronic Recycling Program." <https://www1.nyc.gov/assets/dsny/site/services/electronics/overview-electronics-ecycle>
- Department of Environmental Conservation New York State. "Electronic Waste Recycling." <https://www.dec.ny.gov/chemical/65583.html>
- Department of Environmental Conservation New York State. "Recycling Consumer Electronic Waste." <https://www.dec.ny.gov/chemical/66872.html>
- Department of Environmental Conservation New York State. "Registered Electronic Waste Recycling Facilities." <http://www.dec.ny.gov/chemical/73670.html>
- Environmental Conservation Agency. "National Strategy for Electronics Stewardship." Interagency Task Force on Electronics Stewardship, 2011.
- Environmental Conservation Agency New York State. "Recycling Consumer Electronic Waste." <https://www.dec.ny.gov/chemical/66872.html>
- Environmental Conservation Agency New York State. "The Secret Life of a Smart phone." Infographic, 2015.
- Fitzpatrick, Alex. "Why You Should Never Throw Away Your Old Tech." Time Magazine, December 31, 2014.
- Hawkins, Andrew J. "E-Waste Empire." The Verge, June 22, 2016.
- Koebler, Jason. "Apple Forces Recyclers to Shred All iPhones and MacBooks." Motherjerk, April 20, 2017.

Kraus, Rachel. “Wasted.” Mashable, May 26, 2018.

Larmer, Brook. “E-Waste Offers an Economic Opportunity as Well as Toxicity,” July 5, 2018.

Leahy, Stephen. “Each U.S. Family Trashes 400 iPhones’ Worth of E-Waste a Year,” National Geographic, December 13, 2017.

Lui, Kevin. “You’ll Never Believe Where Your Old Computer Could End Up After You Hand It In for Recycling.” Time Magazine, November 11, 2016.

Lundgren, Karin. “The global impact of e-waste: Addressing the challenge.” International Labour Organization: Geneva, 2012.

McVeigh, Karen. “Huge rise in US plastic waste shipments to poor countries following China ban.” The Guardian, October 5 2018.

Mosbergen, Dominique. “China No Longer Wants Your Trash. Here’s Why That’s Potentially Disastrous.” Huffington Post, January 24, 2018.

Puckett, Jim. “Exporting Harm The High-Tech Trashing of Asia”. Basil Network Convention: Seattle, 2002.

Puckett, Jim. Hopson, Eric. Huang, Monica. “The e-Trash Transparency Project: Disconnect.” Basel Action Network: Seattle, 2016.

Soon-do, Hong. “The Dark Side of China’s Economy: The World’s Wastebasket.” The Huffington Post, July 05, 2017.

Vaute, Vianney. “Recycling Is Not The Answer To The E-Waste Crisis.” Forbes, October 29, 2018.

**HART ISLAND :**

Bernstein, Nina. “Unearthing the Secrets of New York’s Mass Graves”. New York Times, May 15, 2016.

Campbell-Dollaghan, Kelsey. “What We Found at Hart Island, The Largest Mass Grave Site In the U.S.”. Gizmodo, July 11, 2013.

DeStefano, Anthony M. “It is very painful to have someone you love end up here”. Newsday, Aug 10, 2018.

Flynn, Sheila. “New York’s Island of Lost Souls” Daily Mail, Oct 13, 2017.

Gates, Moses. “5 Reasons Hart Island, NYC’s Mass Burial Ground, Should be Open

to the Public”. Untapped Cities, May 30, 2018.

Hunt, Melinda. “Hart Island Project”. 1980. <https://www.hartisland.net/>

Kilgannon, Corey. “Visiting the Island of the Dead”. New York Times, Nov 15, 2013.

NYC Department of Correction. “Hart’s Island”. <https://www1.nyc.gov/site/doc/about/hart-island.page>

NYC Department of Correction. “Hart’s Island Look Up Service”. <http://a073-hartisland-web.nyc.gov/hartisland/pages/search/search.jsf>

**NATURAL RESOURCES:**

Bhargava, Balram & Bhargava, Raghav. “Leadless pacemaker and cremation”. Heart Asia, January 07, 2016.

Ed. Norfleet, M.L. “Phosphorus in Agriculture”. Department of Agronomy and Soils, Auburn University.

Francis, Mickey. “Among states, Texas consumes the most energy, Vermont the least”. U.S. Energy Information Administration, August 02, 2017.

Helmenstine, Anne Marie. “How Much of Your Body is Water?”. ThoughtCo, September 28, 2018.

Isidore, Chris. “Why steel and aluminum tariffs matter to the U.S. economy”. CNN Money, March 07, 2018.

Kinskey, Melissa. “Going Out With a Bang: As pacemakers and other implantable devices become more common, so are crematoria explosions”. Slate, October 26, 2017.

Lind, Keith D. “Understanding the Market for Implantable Medical Devices”. AARP Public Policy Institute, August 2017.

Melillo, Jerry M., et. al. “Climate Change Impacts in the United States: The Third National Climate Assessment.” U.S. Global Change Research Program, 2014.

Mims, Christopher. “New “Ultra-Battery” as Energy-Dense as High Explosives”. MIT Technology Review, July 09, 2010.

Nutting, Rex & Riquier, Andrea. “Here are the states most impacted by steel tariffs” MarketWatch, March 09, 2018.

Ruz, Camila. "The six natural resources most drained by our 7 billion people". The Guardian, October 31, 2011.

Singh, Paul A., et. al. "Fat and Oil Processing". Encyclopedia Britannica, 1998.

"The 11 Most Implanted Medical Devices In America" 24/7 Wall St, July 19, 2011.

U.S.G.S. Water Science School. "Total Water Use in the United States, 2010". U.S. Department of the Interior, December 04, 2017.

U.S. Department of Agriculture. "Sediment Delivered to Rivers and Streams from Sheet & Rill Erosion on Farm Fields". Washington, DC, June 1997.

**ONLINE MEMORIALIZATION:**

Chronicle of Life. "About Us." Accessed November 29, 2018. <https://chronicleoflife.com/about>

Dead Man’s Witch. "Help." Accessed November 29, 2018. <https://www.deadmansswitch.net/help/>

Everplans. "The Top 10 Online Memorial Websites." Accessed November 29, 2018. <https://www.everplans.com/articles/the-top-10-online-memorial-websites>

Find A Grave. "About-Find A Grave." Accessed November 29, 2018. <https://www.findagrave.com/about>

If I Die. "Welcome." Accessed November 29, 2018. <http://ifidie.org/>

Kinsey, Melissa Jayne. "The Winner of the Online Death Marketplace." Slate, December 1, 2017.

Memoriams by Ancestry. Accessed November 29, 2018. <https://fd.memoriams.com/Login.aspx>

Vivala. "About Vivala." Accessed November 29, 2018. <https://vivala.me/About>

**SITE RESEARCH:**

Boys, Bowery. "Chelsea Piers: New York City in the Age of the Ocean Liner." The Bowery Boys New York City History, April 17, 2015.

Campbell-Dollaghan, Kelsey. "5 Parts of New York City that are Built on Garbage." Gizmodo, January 28, 2015.

Carr, Nick. "Ruins in the Hudson." Scouting New York, June 21, 2010.

Galka, Max. "What does New York do with all its trash? One city’s waste – in numbers." The Guardian, October 27, 2016.

Gerber, Raanan. "The Dark History of Pier 54." Straus Media, July 2, 2015.

NYSDEC Division of Materials Management Bureau of Solid Waste Management "Municipal Solid Waste Landfills." ny.gov.

Warerkar, Tanay. "How NYC’s abandoned piers are being transformed into public spaces." Curbed New York, July 17, 2018.

**SOCIAL MEDIA:**

Kallas, Priit. "Top 15 Most Popular Social Networking Sites and Apps [August 2018]." DreamGrow, August 2, 2018.

Luckerson, Victor. "These Are the 10 Most Popular Tweets of All Time." Time Magazine, April 11, 2017.

Messer, Lesley. "20 most-liked celeb Instagram posts of 2017." ABC News, November 29, 2017.

**THEORY:**

Bergson, Henri. *Matière d Mémoire*. Translated by Paul, Nancy & Palmer, W. Scott. *Matter and Memory*. 1896. London: George Allen and Unwin, 1911.

Braidotti, Rosi. "Biomacht und Nekro-Politik. Überlegungen zu einer Ethik der Nachhaltigkeit", In: Springerin, *Hefte für Gegenwartskunst*. Band XIII Heft 2, 2007.

Braidotti, Rosi & Hlavajova, Maria. *Posthuman Glossary*. Bloomsbury Publishing Plc, 2018.

Brooke, Collin Gifford. "Forgetting to Be (Post)Human: Media and Memory in a Kairotic Age." JAC 20, no. 4 (2000): 775-95.

Castronovo, Russ. *Necro Citizenship: Death, Eroticism, and the Public Sphere in Nineteenth Century United States*. Duke University Press, 2001.

Collins, Travis John. "Posthuman Memories". Georgetown University: 2009.

Constant, Caroline. *The Woodland Cemetery: Toward a Spiritual Landscape*. Stockholm: Byggforlaget, 1994.



Coulton, Sam. "London Physic Gardens: A New Necropolis". London: Bartlett School of Architecture, 2018.

DeLanda, Manuel. "Matter Matters." DOMUS Magazine, 2005.

Dobscha, Susan. *Death in a Consumer Culture*. New York: Routledge, 2016.

Driscoll, Kári & Knittel, Susanne C. Introduction: Memory after Humanism, *Parallax*, 23:4, 2017, 379-383.

Ferrando, Francesca. "The Body". In *Post- and Transhumanism: An Introduction*, edited by Robert Ranisch and Stefan Lorenz Sorgner, 213-226. 1st ed. Frankfurt am Main: Peter Lang GmbH, 2014.

Fontana, Andrea & Keene, Jennifer R. *Death and Dying in America*. Polity Press, 2009.

Forlano, Laura. *Posthumanism and Design*. Illinois Institute of Technology. 2016

Heathcote, Edwin. "Introduction" in *Monument Builders: Modern Architecture and Death*. University of Michigan: Wiley, 1999.

Leach, Neil. *Camouflage*. The MIT Press: Cambridge, 2006.

Rigney, Ann. *Materiality and Memory: Objects to Ecologies. A Response to Maria Zirra*, *Parallax*, 23:4, 2017, 474-478.

Rossi, Aldo. *The Architecture of the City*. The MIT Press: Cambridge, 1982.

Spade, Katrina M. "Of Dirt and Decomposition: Proposing a Place for the Urban Dead". University of Massachusetts Amherst, 2013.

Wilson, Matthew. "Architecture for Death". Nottingham: Nottingham Trent University, 2013.

## WASTE TRANSPORTATION RESEARCH:

"Barge NYC's Garbage: Fair Share" by Habitat Map and Organization of Waterfront Neighborhoods.

Dooley, Emily C. MacGowan, Carl. "Long Island's infamous garbage barge of 1987 still influences laws." *Newsday*, March 22, 2017.

Huber, Daniel. "Waste Export Costs to Rise as Remaining Marine Transfer Stations Open." New York City Independent Budget Office, March 2017.

Martin, Douglas. "City's Last Waste Incinerator Is Torn Down." *The New York Times*, May, 8 1999.

McFaddenmay, Robert D. "Garbage Barge Return in Search of a Dump," *New York Times*, May 18, 1987.

New York City Department of Sanitation. "Comprehensive Solid Waste Management Plan." February 2006.

"NYCWasteLess: A Material Recovery Facility Grows in Brooklyn." NYC.gov. City of New York, n.d. Web. March 17, 2013.

"NYCWasteLess: History of NYC Recycling." NYC.gov. City of New York, n.d. Web. March 17, 2013.

Pasternack, Alex. "The Most Watched Load of Garbage in the Memory of Man". *Motherboard*, May 13 2013.

Perlman, Shirley. "From Newsday's archives: Chasing after Long Island's garbage barge." *Newsday*, Published on March 23, 1997.

PlaNYC 2030 – The Plan – Solid Waste Management. Rep. City of New York, 2011. Web.

Winerip, Michael. "Retro Report: The Big Stories Then in the Clear Light of Now." *New York Times*, May 6, 2013.

David Bullard & Carolina Hasbun Elias  
Advisors: Britt Eversole, Julie Larsen, Sinead Mac Namara  
Syracuse University School of Architecture  
Spring 2019